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# Knowledge, Gender, and Production Relations in India's Informal Economy

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**KNOWLEDGE, GENDER, AND PRODUCTION  
RELATIONS IN INDIA'S INFORMAL ECONOMY**

A Dissertation Presented

by

AMIT BASOLE

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

February 2012

Economics

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# KNOWLEDGE, GENDER, AND PRODUCTION RELATIONS IN INDIA'S INFORMAL ECONOMY

A Dissertation Presented

by

AMIT BASOLE

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*To,  
Sunil and Chitra Sahasrabudhey,  
for inspiration and guidance.*

*And Ehsan Ali Ansari,  
for leading the way.*

*And for,  
Shilpi Suneja*

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## **ABSTRACT**

# **KNOWLEDGE, GENDER, AND PRODUCTION RELATIONS IN INDIA'S INFORMAL ECONOMY**

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In this study I explore two understudied aspects of India's informal economy, viz. the institutions that sustain informal knowledge, and gender disparities among self-employed workers using a combination of primary survey and interview methods as well as econometric estimation. The data used in the study come from the Indian National Sample Survey (NSS) as well as from fieldwork conducted in the city of Banaras (Varanasi) in North India.

The vast majority of the Indian work-force is “uneducated” from a conventional point of view. Even when they have received some schooling, formal education rarely prepares individuals for employment. Rather, various forms of apprenticeships and on-the-job training are the dominant modes of knowledge acquisition. The institutions that enable creation and transfer of knowledge in the informal economy are

poorly understood because informal knowledge itself is understudied. However, the rise of the so-called “Knowledge Society” has created a large literature on traditional and indigenous knowledge and has brought some visibility to the informal knowledge possessed by peasants, artisans, and other workers in the informal economy. The present study extends this strand of research. In Chapter Three, taking the weaving industry as a case-study, work is introduced into the study of knowledge. Thus informal knowledge is studied in the context of the production relations that create and sustain it. Further, the family mode of production and apprenticeships are foregrounded as important institutions that achieve inter-generational transfer of knowledge at a low cost. Clustering of weaving firms ensures fast dissemination of new fabric designs and patterns which holds down monopoly rents. In Chapter Four taking advantage of a recently issued Geographical Indication (GI), an intellectual property right (IPR) that attempts to standardize the Banaras Sari to protect its niche in the face of powerloom-made imitation products, I investigate the likely effects of such an attempt to create craft authenticity. Through field observations and via interviews with weavers, merchants, State officials and NGO workers, I find that the criteria of authenticity have largely been developed without consulting artisans and as a result tend to be overly restrictive. In contrast, I find that weavers themselves have a more dynamic and fluid notion of authenticity.

Homeworking women are widely perceived to be among the most vulnerable and exploited groups of workers. Piece-rates and undocumented hours of work hide extremely low hourly wages and workers themselves are often invisible. Though women form a crucial part of the Banaras textile industry, to the outside observer they are invisible, both because they are in purdah and because women’s work proceeds in the shadow of weaving itself, which is a male occupation. In Chapter Five, using field observations, interviews, and time-use analysis I show that women perform paid work for up to eight hours a day but are still seen as working in their spare time.

Because the opportunity cost of spare time is zero, any wage above zero is deemed an improvement. Hourly wage rates in Banaras are found to be as low as eight to ten cents an hour, well below the legal minimum wage. In Chapter Six, I use National Sample Survey data on the informal textile industry to test the hypothesis that emerges from ethnographic work in Banaras. If women are indeed penalized for undertaking joint production of market and non-market goods, women working on their own without hired workers are expected to perform much worse than men working by themselves. I find that after accounting for differences in education, assets, working hours, occupation and other relevant variables, women working by themselves earn 52% less than their male counterparts. This gender penalty disappears in case of self-employed women who can afford to employ wage-workers. I also show that women in the informal economy are more likely to be engaged in putting-out or subcontracting arrangements and suffer a gender penalty as a result.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Why Knowledge

The Industrial Society has given way to the Knowledge Society. I should immediately add what this *does not* mean. There is a lot of hype and rhetoric around the Knowledge Society that simply confuses service sector work with “knowledge work” or that makes grandiose claims about the “weightless” information economy.<sup>1</sup> The former elides the huge diversity within service sector work and the latter ignores the heavy material infrastructure needed to sustain the virtual world of the Internet (Carchedi, 2011). And yet, a significant shift *has* occurred. Just as in the Industrial Age, agriculture did not disappear but itself became industrial, so also in the Knowledge Age, industry does not disappear, but rather gets transformed according to the network logic of informational and knowledge flows. The organization of material production follows the lead of the non-material sector. The new discourse on knowledge that has emerged in the past two decades is tied intimately with the new information and communications technologies and has given rise to many new terms and concepts such as “knowledge worker,” “knowledge management,” and so on. The ramifications of this discourse have been felt in all the social sciences. In economics, a much-celebrated manifestation of the interest in knowledge, as distinct from labor,

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<sup>1</sup>For example, one indication of the arrival of the Knowledge Society is supposed to be that in industrialized countries, services and not tangible goods account for majority of employment and GDP. UNESCO (2005) defines an information or knowledge society as one in which more than 50% of the Gross National Product (GNP) is accounted for by knowledge sectors such as Research and Development (R & D), Education, Information Technology, and certain types of services (such as Marketing, Management and Advertising).

is the “new growth theory” school (Romer, 1990). It may not be an exaggeration to say that knowledge and the internet now occupy the symbolic place that Science and Industry once did and that the new markers of progress are not steel plants and dams, but communication networks and software which support knowledge products (brands, patents, software, designs) not physical ones. Consequences are also in evidence, as Heintz (2006) observes, in the international division of labor, where the divide between producers of primary products versus manufactured goods is being reproduced as the divide between the new manufacturing economies (the primary commodity producers of yore) and the knowledge economies that specialize in ideas, designs, and brands.

India has enjoyed some prominence in the new Knowledge Society also, largely due to its emerging “middle class” and its service contribution to the global economy (software parks and call centers). A National Knowledge Commission has been set up as a “high-level advisory body to the Prime Minister of India with the objective of transforming India into a knowledge society.”<sup>2</sup> While it is especially easy to dismiss the rhetoric of the “knowledge society” when it is applied to a country like India, by pointing out that the vast majority of its citizens remain “off-line” and do not have adequate food, much less computers, the present study takes the new developments seriously. In part because the impact of the ICT revolution is being felt all over the world, leaving people better-off or worse-off but leaving none untouched, but more importantly because the new discourse has greatly amplified the interest in knowledge possessed by those who are on the “other side” of the digital divide. There is an instability in the world of knowledge created by a contradiction between the older “Science-based” view of the world which can only allow second-class status to all knowledge that is deemed non-scientific, and the newer “knowledge-based” view

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<sup>2</sup><http://www.knowledgecommission.gov.in/>

which is capable in principle of granting equal status to different types of knowledge. In the period of hegemony of Science knowledge had increasingly been defined “as the product of organized and often large-scale ‘research,’ often disseminated to schools and universities through textbooks and stored in libraries.” (Barnett, 2000, p. 15) Encouraged by the growing interest in knowledge per se, as well as by the perceived commercial importance of knowledge that exists outside the university, a large and rapidly growing international literature has now emerged on concepts such as “indigenous knowledge,” and “traditional knowledge.”

The impetus to study traditional and indigenous knowledge (hereafter TK/IK) also comes from another direction: the need to make the development process less “top-down” and more “participatory.” From the perspective of modernization theory, which saw no place for such knowledge in a society’s future, it was a big shift to acknowledge that such knowledge, produced outside of modern institutions of knowledge production, could be an important player in development. TK/IK received a fillip, in particular, with the growing ecological crisis of large-scale industrialization. These knowledges were seen as ecologically friendly, having developed over a long period of time in the midst of populations that lived close to their natural environments. As development thinking and policy has moved away from what is now perceived to be “top-down,” “technocratic,” and “non-participatory” approaches to more “people-friendly” and participatory ones, interest has grown in people’s knowledge. The core motivation is that development projects, in order to achieve their aims have to take the people into confidence, have to incorporate their knowledge into planning. In one stroke development policy could claim to be participatory as well as non-Eurocentric.

Despite its limitations (discussed in Chapter Two), the TK/IK movement presents a unique opportunity to challenge the hierarchies in the world of knowledge, by taking seriously knowledge that has thus far been accorded secondary status. The present study attempts to do this by raising questions such as how widespread is this knowl-

edge, how is it produced, how is it valued in the market, what role do class and gender play in its dynamics. I adopt the term “lokavidya” to label this knowledge (see Chapter Two). Lokavidya, loosely translated, is the knowledge with people in society (loka = people/world, vidya = knowledge/skill/art), but here I will continue to use the Indian term without translation. As theorized by Sahasrabudhey and Sahasrabudhey (2001) the locus of lokavidya is ordinary life as distinct from other (more visible) loci such as the university or the research laboratory (academic or commercial) where production, organization, and management of knowledge take place. The holders of lokavidya are artisans, small farmers, small shopkeepers, tribals and women, those members of society who constitute its majority and have yet been unable to benefit significantly from the development process. They are also largely the constituents of the “informal economy.” The lokavidya perspective recognizes that ordinary life is a center of knowledge production and not merely an “implementer” of knowledge generated elsewhere. The concept is a result of asking the question: what if the majority society, instead of being ignorant and in need of education, is actually knowledgeable? The present study takes this proposition seriously and develops it further in the context of small-scale industry in India.

Lokavidya deserves the attention of economists because our understanding of the informal economy is incomplete without theory and empirics of the knowledge that makes this economy work. How labor processes are organized, how changes in technique are incorporated, skills acquired and rendered obsolete, should be legitimate subject of study for the informal as they have always been for the formal economy. We may find, for example, that artisanal apprenticeship methods are much closer to pricing knowledge efficiently, in many instances delivering it free of cost, as compared to monopoly pricing of knowledge by capitalist firms. As far as development policy is concerned, the lokavidya perspective allows us to recognize the informal economy as a reservoir of innovation without losing sight of the modes of exploitation that char-

acterize it. Rather than seeing all knowledge outside the university as “traditional” knowledge in need of validation by Science before incorporation into development practice, we can see it as having its own system of validation and correction, and lokavidya-holders as agents who can shape their own economies.

Finally, there is a political dimension which motivates the study implicitly. The majority of the people in India and across the world have been told that they are ignorant and in need of education before they can participate fully in society. Politically, even when they constituted the mass-base of a movement, they have been sidelined in intellectual terms. If the idea becomes mainstream that knowledge is abundant in society outside of the universities and similar official establishments, that one can be an educated person without ever having gone to college, then this can change. This naturally raises one objection. Does speaking of lokavidya mean being “against education” or conspiring to keep the majority out of colleges and universities? The answer is “no.” The lokavidya claim is that as long as education is synonymous with the system currently in place, this education can only grant a small number of people a government or corporate job. The others, the vast majority, will forever be kept “in the waiting room of history.” But if the claim is staked that knowledge exists with the people too, they too can design education systems, run schools and universities, and absorb any knowledge that benefits them, on their own terms, then, at the risk of hyperbole, perhaps the basis of the present system will collapse as will its monopoly on the good life.

## **1.2 Theoretical Framework**

This work draws upon four distinct types of academic and policy literatures: the work done on class and the labor process in economics, sociology and anthropology; the writings on TK/IK in anthropology and development studies; the literature on artisanal production (specifically weaving) in economics, sociology and anthropology;



and the feminist literature on gender disparities and women's work. I adopt a framework that merges class, gender, and knowledge perspectives on the economy. Class is used here in a Marxist sense to refer to the relations of production between those who own the means of production and those who provide labor-power. When we look at class through the lens of knowledge, some more production relations become relevant, those between conception and execution of work, and between mental and menial labor. Hierarchies of knowledge can then be related to class hierarchies and vice versa. Gender is treated here as a fundamental social relation on the same plane as class. Thus class and gender relations together shape the performance of work and lokavidya is conceived as knowledge that is produced in working.

Knowledge that originates and exists outside the universities and research laboratories (public or private) is now gaining visibility in academic and policy circles. Through the 1980s and particularly in the 1990s, almost in parallel with the literature on informality, but largely unconnected with it, a body of literature developed around the idea that modern scientific knowledge was not the only type of knowledge relevant to the development process.<sup>3</sup> Although first emerging in anthropology, the concepts of traditional knowledge or indigenous knowledge (TK/IK) soon became prominent in the discourse on sustainable development. The idea was that communities all over the world have a vast store of knowledge relating to biodiversity, resource management, medicinal herbs and so on, which could be used in fostering their own development. This knowledge was supposed to be location and/or culture specific, generated within communities and forming the basis for survival and day-to-day activity, predominantly rural, oral and not systematically documented. Formal knowledge (or scientific knowledge) was university or research laboratory based, dependent on

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<sup>3</sup>Brokensha et al. (1980) is an early collection attempting to demonstrate the relevance of ethno-science (IK) to development. Warren et al. (1995), Sillitoe et al. (2002) and Sillitoe (2006) are more recent efforts along similar lines.

modern science, systematized, and urban. Although the overwhelming attention has been focused on biodiversity, resource management and traditional medicines, more recently the literature has moved beyond this. A 2004 World Bank publication called “Poor Peoples Knowledge” (Finger and Schuler, 2004) points out that the store of knowledge that poor people possess is much larger than previously conceived.

What to call this knowledge has been a problem in the literature and it is known by various names, the label being a function of the theoretical perspective adopted.<sup>4</sup> A historicist approach yields the term “traditional knowledge,” an identity-based approach gives us “indigenous knowledge,” an emphasis on organization gives us “tacit knowledge,” on applicability “local knowledge.” The result has been a fragmentation of an otherwise coherent discourse. While each term serves the specific purpose for which it has been defined, in the present study I eschew all these and adopt a different concept. This risks adding to the confusion, but I have good reasons for adopting the neologism. “Traditional knowledge” as a label is too misleading because it suggests a knowledge in/of the past to be contrasted with modern knowledge of today, when in fact any knowledge upon which work is based in the present is unlikely to be static. To quote one weaver from Banaras,

Everything changes with time, what we call production, it slowly keeps changing with time. Similarly changes have come to the Banaras industry also. We are weavers by birth, so we don’t have difficulty in adapting with the times.

“Indigenous knowledge” is too restrictive because many peasants and artisans do not self-identify as “indigenous.” Neither does lack of formal curricula or training programs mean that all such knowledge is necessarily tacit (and conversely there is a tacit component to most formal knowledge, see Chapter Two).

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<sup>4</sup>Antweiler (1998) counts 23 distinct labels applied to this knowledge in the literature including indigenous, native, local, traditional, folk, people’s, ethnic and everyday.

In Chapter Two I propose the term *lokavidya* and I define it as knowledge produced in living and working. The inferior status of *lokavidya* owes itself in part to the fact that it is lived knowledge, not generally found in books. Labor based on this knowledge is seen as “manual” as opposed to “mental” labor. While this division is ancient, it appears in the modern capitalist age under newer guises. For example, artisans were once thinkers and scientists. But the reshaping of the labor process under capitalism has accentuated the division between mental and manual work, has formalized it in bureaucratic routines and procedures. The relation between work and knowledge has undergone a profound change as a result, as has the meaning of work itself. After some initial incisive attempts to theorize the mode of creation of new knowledge hierarchies under capitalism by writers such as Braverman (1974) and Marglin (1974), labor process theory has not pursued this theme with the seriousness it deserves. One reason could be that much of the labor process literature focuses on OECD countries, where craft is mostly dead and artisans survive only in niche markets. However this process is far from complete in developing societies, where artisanal (including peasant) production still occupies an important place in the economy. Those writing about knowledge in the developing country context have indeed focused on hierarchies of knowledge (scientific versus traditional knowledge for example) but have not always connected these with the labor process. Thus the link between work and knowledge is largely missing from the writings on indigenous and traditional knowledge. Relatively little attention has been given to exactly how this knowledge is produced and transmitted, how innovation takes place and what can be done to support the work processes that generate this knowledge. The present study tries to bridge these gaps by connecting work to knowledge and “traditional” knowledge to work.

The separation of “work life” and “family life,” a fundamental organizing principle of industrial societies as well as of modern socio-economic thinking, does not apply

to a very large section of the global working class. Yet, the conventional narrative of work as something that takes place outside the home is so pervasive that due attention has not been paid, at the theoretical level, to the home and the family as the center of production. In theorizing informal knowledge and the informal sector, in particular with reference to the role of women, it has to be borne in mind that the establishment of capitalism in the ex-colonies (under the name of development) has not yet “completed its historic mission.” “Proper” capitalist employment which would pay a family wage to the male worker allowing him to support a “non-working wife” has materialized for only a tiny fraction of the working class. On the other hand “traditional industry” has not been displaced either, albeit it has become articulated into the wider capitalist economy. In many instances, artisanal centers have expanded in size due to lack of employment opportunities elsewhere as well as increased demand for artisanal products. The continued high participation of women in market oriented home-based work is partly a result of the failure of the formal sector to expand and in part a result of the resurgence in informal sector employment during the neoliberal period. Although a 1975 Government of India report called the factory sector “one of the greatest factors contributing towards the fall in women’s economic participation in India”<sup>5</sup> due to its displacement of household industry, in fact despite decades of modernization under colonial and post-colonial regimes the production relations, knowledge traditions, organization of the labor process as well as gender division of labor of “traditional industry” continue to play an important role in structuring the “informal manufacturing sector” today.

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<sup>5</sup>Quoted in Hahn (1996, p.255)

## 1.3 Empirical Context

### 1.3.1 The Informal Economy

I investigate the relationships between class, gender and knowledge in the informal economy because in India 87% of the workforce is in the informal sector.<sup>6</sup> Since the “discovery” of the informal economy by the ILO Kenya mission, a voluminous literature has developed on understanding this sector of developing economies. Principal areas of focus in the literature have been how to define informality (in statistical and theoretical terms), what are the antecedents of this sector (is it “traditional” or “modern”), how is it connected with the formal sector (via the market, via subcontracting), what is the nature of this relationship (symbiotic or exploitative), what types of class relations and employment regimes dominate (wage-labor or self employment, what types of contracts), is this sector dynamic or stagnant, entrepreneurial or exploitative, source of growth or sink for surplus labor and so on (Basole and Basu, 2011; Breman, 1996; De Soto, 1989; Gerry, 1987; Jhabvala et al., 2003; Moser, 1994; Rao, 1993).

But this economy consisting of peasants, artisans, women working at home and outside, and small traders and retailers, has not been thought of in terms of the knowledge that underlies it. Indeed, the 90% of the working class which constitutes this economy is the same 90% of the working class which has never been to a college or university. But if formal institutions of knowledge production are only tangentially relevant to their livelihoods, this does not mean that knowledge is lacking here. It is, however, largely invisible. While voluminous literatures can be found on formal education and schooling, technical change and innovations in the context of the “for-

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<sup>6</sup>I follow the definition of informal sector adopted by the National Commission for Enterprises in the Unorganized Sector (NCEUS) popularly known as the Sengupta Commission, after its Chairman, the late Prof. Arjun Sengupta: “The unorganised sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers” (Sengupta et al., 2007, p.2).

mal sector,” these topics are poorly studied for the informal economy, where most of humanity still works. One reason for this invisibility is devaluation. Informal knowledge is not interesting because it is inferior knowledge which exists only because it has not yet been replaced with scientific knowledge. The problems of invisibility and devaluation of informal knowledge have a gender dimension also. Women constitute half of the informal economy but in a large part of the informal sector, women are often invisible, literally and metaphorically. If men in the informal economy perform work whose knowledge-basis is invisible, women’s knowledge in this economy is doubly veiled because it is acquired and used inside the home and the work based upon it is not considered work. Of course the “informal economy” is a name given to a very large variety of economic practices, from highly skilled craft production to moving dirt at construction sites. So the question may be raised, how can one talk about one theory of knowledge for this sector? I hope this question will be answered in the following pages.

Another reason for choosing the informal economy is that it is the main site of contemporary artisanal production. “Artisanal production” is usually understood as referring to craft goods which are hand-produced and combine certain aesthetic qualities as well as use-value. In addition some aspects of the labour process, such self-direction and lack of external supervision, may also be implicit. The commodity is thought of as a niche-good, usually serving the high end of a given market. All this is true. But only partially so. As I define it here, the key aspect of the artisanal mode is that it is based on lokavidya, not just TK/IK. Hence, not only are makers of the Banarasi Sari and Bhadohi Carpets artisans, but so are the makers of countless locally produced and consumed food items, garments, and household goods. Seen this way there is nothing “niche” or “high-end” about artisanal production. Rather, it is a widely prevalent production mode serving a broad-spectrum of the market with a wide variety of goods. Small industry, whether entirely hand-based or partly

mechanized, owing its presence to artisanal roots, is common in India. As Roy (1999) notes, rather than being annihilated, several types of traditional industries survived with changes into the 20th century, and even grew in size in some cases.

Surat at the turn of the century probably employed about 5-6,000 weavers in silk and lace. Today, the direct descendant of weaving, the powerloom, provides employment to about half a million. Moradabad brassware engaged 7-8,000 full-time workers in 1924. In the 1990s, an estimate places the town's metal workers at 1,50,000. Not more than a few thousands were found in the carpets in Mirzapur-Bhadohi area in the interwar period. 3,00,000 is the approximate figure in the 1990s.

Nor is this surprising in historical context. Thompson (1963) in his influential study of the making of the working class in England has this to say about "outwork," i.e. putting-out to artisans:

... the numbers employed in the outwork industries multiplied enormously between 1780-1830; and very often *steam and the factory were the multipliers*. It was the mills which spun the yarn and the foundries which made the nail-rod upon which the outworkers were employed. Ideology may wish to exalt one and decry the other, but facts must lead us to say that each was a complementary component of a single process. This process first multiplied hand-workers and then extinguished their livelihood with new machinery... we may say that large-scale sweated outwork was as intrinsic to this revolution as was factory production and steam" (p. 261).

One such small-scale industry that continues to be important from the employment as well as output perspective is textile industry. Being the single largest artisanal industry in India after food production and processing it is important from the purely

numerical point of view. But it also has historically been a marker of Indian civilization and continues to produce internationally renowned fabrics, including the “Banarasi Sari” of which we will hear more in the following pages.

### **1.3.2 The Banaras Textile Industry**

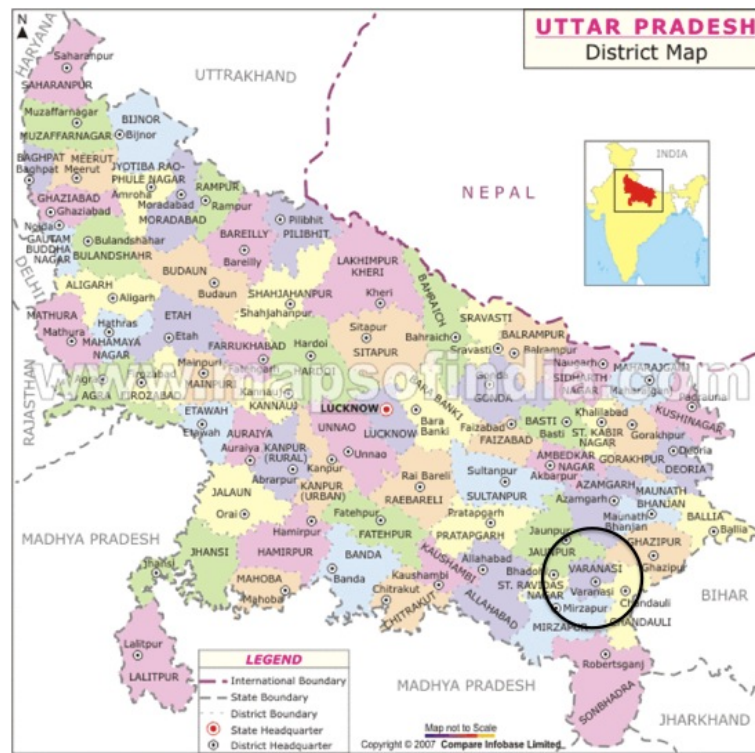
Several aspects of artisanal knowledge and its relationship to the organization of production cannot be explored with existing national level datasets. They require more detailed ethnographic work. For this purpose, I spent nine months from October 2009 to June 2010 conducting surveys and interviews among handloom and powerloom weavers and embroidery workers in the city of Banaras (and surrounding areas ). This site offers many advantages to conduct such a study. It is home to a large number of highly skilled artisans, competition from powerlooms is raising fundamental questions about how artisanal knowledge changes over time. The recent awarded Geographical Indication (a type of Intellectual Property Right) allows us to study how artisanal knowledge is being commodified. Finally, the crucial and often invisible contribution of women to the industry in Banaras is vastly under-explored.

Banaras (also known as Varanasi and Kashi) is an ancient city on the banks of the river Ganga in the eastern part of the North Indian state of Uttar Pradesh (Figure 1.1). Internationally known as the “holy city of the Hindus,” it is on almost every foreign tourist’s destination list. It is also home to several artisanal traditions, one of the best known of which is handloom weaving (Kumar, 1988; Pandey, 1981; Sahasrabudhey, 1992). The weaving industry has grown many fold in the last 150 years and weavers who once constituted 1% of the city’s population now account for around 5% (Kumar, 1988). Exact loomage figures are difficult to obtain because the last published census of looms was conducted in 1995-96 (JCHP, 2004) and the disaggregated data from the latest one conducted in 2009-2010 are not yet available. Informed sources such as the Director of the Weaver Service Center (WSC) in Banaras



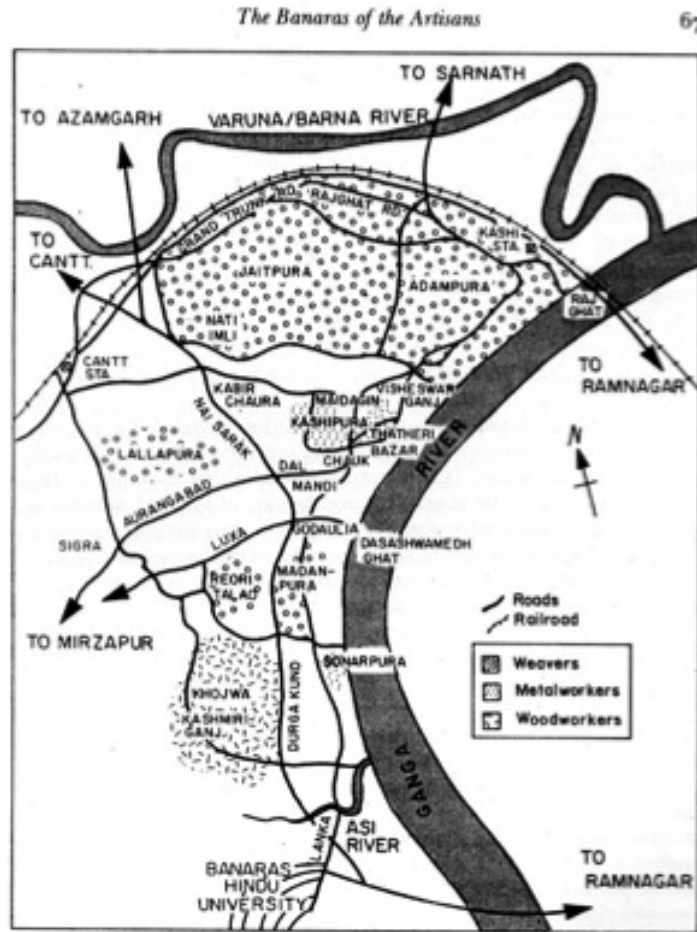
and Ateek Ansari, a powerloom weaver, journalist and long-time industry observer suggest a figure of 75,000 for handlooms in the city. There is more disagreement over the number of powerlooms since the sector is more rapidly growing and also to some extent clandestine. The estimates range from 10,000 looms (DCHandlooms, 2008) to 50,000 (Director, WSC) to 125,000 (Ateek Ansari based on figures obtained from dealers of powerloom machinery).

**Figure 1.1.** Uttar Pradesh district map showing the location of Varanasi (Banaras) district



Weaving is spread throughout the city and surrounding rural areas in clusters which typically house, in addition to the weavers, several other artisanal communities such as designers, dyers, embroiderers, and loom-makers. To walk through a Banaras weaving *mohalla* (neighborhood, see Figure 1.2) is to be assailed from all sides by sights and sounds related to weaving: the click-clack of the handlooms, the thundering of the powerlooms, the colorful yarn being dyed and dried, the hammering

**Figure 1.2.** A schematic map of the city of Banaras. Weaver localities are marked with circles.



Source: Kumar (1988)

of the board-cutters, and men carrying bundles of cloth and rolls of yarn on bicycles, motorcycles and cycle-rickshaws. The population connected with weaving probably numbers in the several hundred thousands in an urban area with a total population of around 3.5 million. Thus the industry forms a very important part of the Banaras economy.<sup>7</sup> The industry is an intricate and complex web of relationships between

<sup>7</sup>One evidence of this is the frequency with which industry news makes it into the Banaras editions of various Hindi newspapers. During my stay in Banaras it was my ritual to peruse the daily paper for weaving related news. I rarely came up dry. Though mostly focused on the economic conditions

artisans, contractors, merchants and their intermediaries. The city houses expertise in all aspects of textile production and finishing except spinning of fibre into yarn. Silk, cotton and synthetic yarn is procured domestically from other parts of India or is imported from China. Silk and synthetic fabric is woven by hand and by machine, various post-weaving operations such as cleaning, finishing, embroidery etc, are performed and finished goods are packaged and distributed all over the country and outside.

Banaras weavers are best known for making the Banarasi sari, 5-6 meters long and 1 meter wide silk fabric with intricate woven embroidery, usually worn by Hindu women. The most prominent use for the sari is as traditional bridal-wear. It is woven on a throw-shuttle pit loom fitted with a Jacquard mechanism that allows the embroidery of very complex designs (Figure 1.3).<sup>8</sup> A few fly-shuttle handlooms are also found and increasingly powerlooms are taking over.

The weaving tradition in Banaras is centuries old, with some scholars dating it back to the first millenium BCE, and the city seems to have been a important weaving center for cotton and later silk and wool fabric (Krishna and Krishna, 1966). Historically the most visible product of Banaras has been the “brocade,” a fabric made from silk or cotton with interwoven gold threads (defined in greater detail in Chapter Four). Though ample evidence is available on brocades through the ages, and particularly since the period of the Mughal emperor Akbar (as recorded in the writings of Francois Tavernier and other travelers of the period and in local texts, see Krishna and Krishna (1966)), it is difficult to ascertain the age of the “Banarasi Sari”

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of the weavers and government schemes to improve them, articles spanned a wide variety of issues from the awarding of a Geographical Indication status to the Banarasi Sari, to the role of the sari industry in creating a syncretic Hindu-Muslim culture.

<sup>8</sup>The “Jacquard” named after its French inventor, is a mechanism that relies on punch-cards (predecessors of computer punch cards), here called Jacquard boards, to transfer a binary code, the presence or absence of a hole on a card, to design on the fabric. See Dutta (2007, p. 205) for a detailed description of its operation.

**Figure 1.3.** Banarasi Sari Patterns.



Source: Field Photos

specifically (Kumar, 1988; Pandey, 1981). The weavers themselves casually refer to the art as being centuries old. For most it is an ancestral occupation. All but one or two weavers in my sample of 99 weavers are at least second generation weavers, most are third or fourth generation. The industry has always relied heavily on long-distance trade within India (Bengal, the South and Punjab constitute major markets) as well as on export to the Middle East and South-East Asia. In recent decades the weavers have diversified in many ways, producing fabric for stitched garments (locally called “dress material”), wall hangings, bags, stoles, scarves and so on, and using non-silk (mostly synthetic) yarn. But they still retain the identity of a “Banarasi Sari weaver.”

In the city of Banaras (as well as in some other nearby cities), weavers are overwhelmingly Muslim males of the Ansari community. In the rural areas Hindu men (mostly belonging to the lower castes) are commonly found weaving. Traders or merchants in the sari business have traditionally been upper-caste Hindu men (belonging to the Gujarati or Marwari community) though the past few decades have seen the rise of Muslim traders and exporters from the ranks of the Ansari community. The Ansaris of Banaras constitute a world unto themselves. Though perhaps a cliché, it is

nonetheless apt to say that weaving is a “way of life” for them. Almost every aspect of life, childhood, adolescence, marriage, festivals, leisure, architecture of the home, rhythms of the day and so on are shaped by weaving (Kumar, 1988; Raman, 2010). In his poignant novel on the weavers of Banaras, *Jhini Jhini Bini Chadariya* [A Cloth Woven Fine], whose title is taken from the verse of Banaras’ most famous weaver, the 15th Century poet-saint Kabir, Abdul Bismillah tries to capture the uniqueness of this community.

There is the world at large, there is India, there is world of the Hindus,  
one of the Muslims. And then there is the world of the Banaras weavers,  
different in many ways from all others (Bismillah, 1986, p. 10).

They live in various areas of the city, they speak different dialects, but one thing they share in common, “the men have their feet in the loom, the women their hands on the spinning wheel” (*ibid.* pp. 10-11). Yet, strikingly, for all its uniqueness it displays features common to “communities of craft” in far-flung places, such as the silk weavers of Nishijin, a district of Kyoto, Japan, whose description by Hareven (2002) captures the situation in Banaras perfectly.

For the weavers, artisans, manufacturers, and tradesmen who work and live there, Nishijin...represents a way of life- a tradition of family-based craftsmanship and industry that has been embedded in the community for centuries. (p. 25)

The striking parallels between the Banaras and Nishijin weavers, who also make silk fabric for traditional wear, extend to the role of the master weaver, the system of job-work, the piece rate system and the co-existence of hand and powerlooms. Thus what we are about to learn through the voice of the weavers in Banaras holds lessons for understanding other artisans in other places.

Both a social and a technical gender division of labor exists among artisans in Banaras. As per the social division of labor, men weave and women do care-work as well as various other labor-intensive work labeled as “women’s work,” such as embroidery, finishing of woven fabric, making necklaces, hand-fans, *bindis* etc. But there is also a technical division of labor in that women in weaving households while they do not weave themselves are critical to the labor process because but are responsible for preparing the weft for weaving. They are not paid separately for this work, it is subsumed under the wages (or price if it is an independent weaver) that the male weaver gets for the finished product. I explore these issues further in Chapter Five.

Given its size and reputation, the industry had until recently been the subject of surprisingly few studies. In the last five years, in part due to an ongoing and severe crisis, two government-sponsored studies, a few NGO-led studies and one academic study have been published, not counting several smaller reports and news articles (Ahmad, 2007; DCHandlooms, 2008; Raman, 2010; Varman and Chakrabarti, 2006). The foci of these studies are wide-ranging, from the overall structure of the industry, to the cause and consequences of the crisis, the condition of the weavers, communal and gender identity, and policy measures to support handloom weaving. However, none have focused on artisanal knowledge and the role that production relations as well as institutions of apprenticeship, family and community play in creating, sustaining and undermining this knowledge. Arguably the best study of the industry still remains *Jhini Jhini Bini Chadariya* a novel from the early 1980s by Abdul Bismillah. Through the story of a job-working weaver whose attempts to start a producer co-op along with his job-working and loomless friends are thwarted by his own *girhast*<sup>9</sup>, Bismillah touches upon almost all the central aspects of the industry, the power of the merchants

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<sup>9</sup>A *girhast* is a weaver who puts work out to other weavers. In this study the term is used interchangeably with master-weaver. The word derives from the Hindi word *grihasti* which means household.

and masters, the helplessness and poverty of the job-workers and loomless weavers, subtle gradations in power and prestige among the own-workers and smaller masters, the looming threat of the powerlooms, misappropriation of government funds by the master-weavers, patriarchy and the invisibility of women’s work, and many more.

### 1.3.3 Data and Methods

Before concluding this Introduction I briefly describe the data used in the study. More details on data and methods are given in later chapters as appropriate. I have adopted a mixed-methods approach combining primary survey and interview data with all-India National Sample Survey data on the small-scale weaving sector. The National Sample Survey Organization (NSSO) survey of the “unorganized manufacturing sector” (62nd Round, covering the period 2005-2006, Government of India (2008b)), a stratified, multi-stage random sample survey of 82897 enterprises, is used to study the organization of the weaving industry at the national level. This dataset is also used to explore gender disparities in the informal sector. The NSSO Employment-Unemployment Survey, 61st Round, covering the period 2004-2005, a stratified multi-stage random survey of 1,24,680 households and 6,02,833 persons all over India (Government of India, 2006) is used to provide a picture of the educational and training background of informal sector workers. My own Banaras field survey of 99 weavers is a non-random survey that uses purposive and snowball sampling. The details of this survey are reported in Chapter Three.

A subset of the surveyed weavers were approached for semi-structured interviews (Ritchie and Lewis, 2003). In addition to weavers the following types of actors in the industry were also interviewed: designers, (i.e. artists who create patterns found on the saris/fabric); non-weaver artisans, viz. card-makers (who punch the card used in the Jacquard mechanism); *zari* makers, post-weaving workers (dyers, starchers, packers); women who do preparatory yarn work (like filling bobbins) and post-weaving

finishing (such as cutting threads from powerloom saris) as well as women who do embroidery work on finished saris; master-weavers (*girhasts*) who put out work to weavers or who employ loomless weavers on their looms and sell to wholesale merchants; merchants (*gaddidars*)<sup>10</sup> who buy and sell saris wholesale; and agents who match out of town merchants with local ones for a commission (only one was interviewed). Additional interviews were conducted with NGO workers, specifically people in charge of three NGOs who work among the Banaras weavers; Human Welfare Association, Sarnath which is a co-applicant for the recently awarded Geographical Indicator (GI) Patent to the Banarasi Sari; Peoples Vigilance Committee on Human Rights (PVCHR), Pandeypur, which has worked extensively to document malnutrition and suicide cases among weavers; and Upasana (Varanasi Weavers Project), Sigra, which gives work to around 120 weavers and sells the product abroad. Also interviewed were officials of central and state government bodies created for the handloom industry (Additional Director (AD) Handloom in Rath Yatra and the Weaver Service Center in Chauka Ghat) and lastly, community leaders, viz. a representative of the traditional sardar-mehto system (a type of caste panchayat), a municipal corporator and a Congress politician in Banaras, and a Member of the Legislative Assembly (the State legislature) in Maunath Bhanjan, a weaving town, 100 kilometers north of Banaras. Table 1.1 summarizes the interview database. Parts of this database are used in Chapters Three, Four, and Five. Finally, a time-use survey of 32 women who undertake home-based embroidery work was conducted. The details of this survey are described in Chapter Five.

Interview data is reported anonymously with only a file identification number and a general description of the person who is being quoted. The exceptions are state

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<sup>10</sup>*gaddi* is a Hindi word literally meaning mattress. It refers to the place where master weavers and merchants conduct their business transactions, usually a large room with wall-to-wall mattresses covered with white sheets.



**Table 1.1.** Interviews conducted in Banaras,

Category	No. of respondents
Designers	8
Ex-weavers	6
Gaddidars (merchants)	5
Girhasts (masters)	11
NGO and State officials	13
Other artisans	7

officials or NGO workers from whom explicit permission was received to quote by name. A special word of mention is needed for two key informants who provided repeated interviews for the study and are identified by the pseudonyms, Javed Bhai and Mohammad Salim. Javed Bhai is a handloom weaver who has worked in various capacities in the industry including weaving and being the resident expert in whole-sale stores. Recently he has started undertaking and putting-out work that involves putting patches and other decorative elements on powerloom saris. He was also a key source for survey and interview subjects. Mohammad Salim is a powerloom weaver.

Enough preamble, now onwards to the study!

## CHAPTER 2

### APPROACHING LOKAVIDYA

#### 2.1 Introduction

The recent history of knowledge deemed to be “non-scientific” is not a happy one. That such knowledge exists and serves a vast section of humanity was never in doubt, but it was deemed to be of secondary status, consisting of all kinds of ideas, right and wrong; science and superstition, experiment and ritual all rolled into one. It was gained and applied outside modern institutions, the school, the factory or the office. Hence it was not modern. It was “learned on the job” hence it was not systematic. It was not patented, hence its economic potential was untapped. But science could come to the rescue. It could separate the wheat from the chaff, the active chemical from the herb, knowledge from ignorance. There was a consensus that knowledge produced at loci other than modern universities, laboratories or modern industry, whatever it might be, was not “Science.” The long history of philosophical difficulties encountered in marking the boundary between Science and non-Science was overlooked, particularly by practicing scientists and engineers, because the spectacular success of Science was self-evident and proof of the pudding was in eating it.

The past two decades have seen a profound shift in thinking about non-scientific knowledge. A voluminous literature has developed on this knowledge, variously labeled traditional, indigenous, or local. Why has this happened? Two reasons may be given, without claiming them to be the only explanations. First, the very successes of Science became its failures as concern with ecological and social impacts of nuclear, chemical and other technologies grew. Second, a concern grew that development

projects paid little or no attention to the practices of people who were going to be the beneficiaries of development. These changes did not happen because technocrats and policy-makers suddenly realized the error of their ways, but because social and political movements created pressure from below. Even though I will focus on its shortcomings later, I want to emphasize here that the resulting mainstreaming of traditional/indigenous knowledge (hereafter TK/IK) in development thinking marks a major shift from the hey-day of modernization theory in the 1950s. A significant contribution of this new literature has been to bring to the attention of the “educated minority” what the rest of the world already knew, viz. that the latter possesses knowledge in abundance on all aspects of life. The principal tasks that now present themselves are to generalize the somewhat restrictive concepts of TK/IK to *all* knowledge possessed by the “uneducated majority” and to connect the disembodied idea of knowledge to concrete work and life processes as well as to investigate the social relations of production that create, sustain, transfer and modify this knowledge. In this dissertation I attempt a modest beginning in this direction.

One word of caution before I proceed. The reader will find, in the following pages, very few descriptions of the *content* of lokavidya. There are interconnected operational and theoretical reasons for this. Marchand (2003) notes in his study of master-builders of mosque minarets in Yemen that his attempt to answer the question “what does a master-builder know” by asking the artisan how he knew this thing or that usually failed because the response he got, “It’s all in my head,” left him none the wiser. Talking to artisans about their knowledge is thus not a straightforward proposition. One reason, as Marchand discovered, is that much of their knowledge is performative and is not only applied in performance but also transferred in performance, i.e. there is a near absence of verbal communication even between master and apprentice. While this is not an excuse for ignoring the knowledge as non-serious, it does pose some difficulties for the investigator. Instead

of describing the content of knowledge, I focus on the social conditions under which it is produced.

The remainder of this chapter is organized as follows. I first motivate the discussion on lokavidya with the help of empirical evidence that knowledge in the informal economy is largely invisible (Section 2.2). Next I review the rapidly growing literature on TK/IK, which though deficient in important ways, still creates the conditions for a recognition of lokavidya (Section 2.3). In Section 2.4 I make the case that it is important to pay attention to the work processes that create lokavidya. Such a work-centered approach is conspicuous in the literature by its absence. Section 2.5 presents some remarks on the distinction, real and imagined, between Science and lokavidya.

## 2.2 Absent or Ubiquitous? Knowledge in the Informal Economy

Official surveys, even when they attempt to identify the knowledge-basis of the informal economy, usually fail to give an informative picture. For example, the Third Census of Small Scale Industry in India (Government of India, 2004) asked firms about the sources of their technical knowledge. Table 2.1 shows that almost 90% of unregistered (i.e. informal) firms fell in the residual category of “no source.”

**Table 2.1.** Source of technical know-how in the unregistered small-scale industry sector.

Source	% units
Abroad	0.67
Domestic collaborator	5.58
Domestic R&D	4.84
None	88.91

Source: Government of India (2004, p. 296).

Since it is unlikely that a firm operates without any technical knowledge, one may reasonably guess that firms that report no source are relying on the “in-house” knowledge of their artisans and workers, their informal networks, and their ability to imitate or adapt formal sector knowledge to their needs. However this is not a recognized source of know-how, or rather it is so ubiquitous and obvious as to be unworthy of comment.

An even more striking example of the invisibility of knowledge comes from the NSS Employment-Unemployment surveys. The 50th NSS round conducted in 1993-94 asked questions about the types of skills present in the population and the 61st round conducted in 2004-05 (the most recent one for which unit-level data was available) included questions on the type and extent of education (i.e. years of schooling), technical education (attendance in industrial or other technical training institutes) and vocational training (Government of India, 1997, 2006). Analysis of the 2004-05 NSS data reveals, expectedly, that 84.7% of the respondents had not proceeded beyond middle school. One expects technical and vocational training to be of greater relevance to work performed in the informal economy, but 95.4% of the respondents had received no formal technical or vocational training either. These two facts combined suggests that non-formal sources of training predominate overwhelmingly at the national level. Aware of this fact, the survey also collected data on “non-formal vocational training,” which was defined thus:

The expertise in a vocation or trade is sometimes acquired by the succeeding generations from the other members of the households, generally the ancestors, through gradual exposures to such works. The expertise gained through significant ‘hands-on’ experience enables the individual to take up activities in self-employment capacity or makes him employable. [This] was considered as receiving ‘non-formal’ vocational training through ‘hereditary’ sources. ‘Non-formal’ vocational training received by

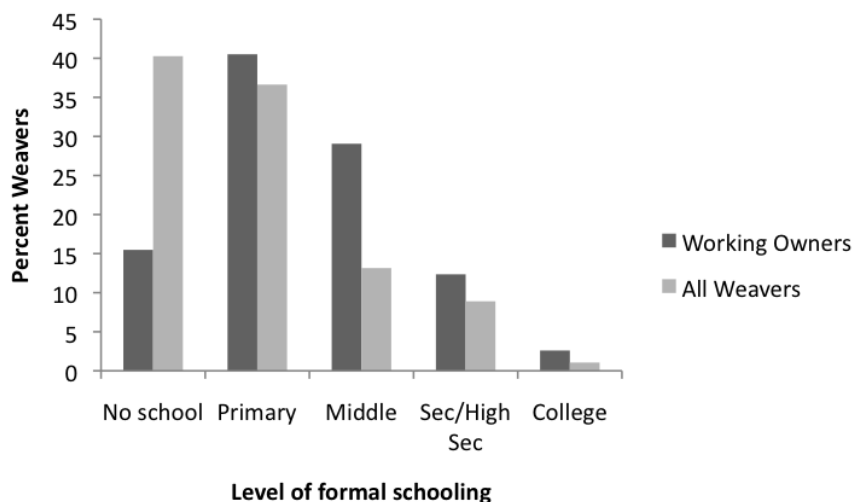
a person to pursue a vocation different from the trade or occupation of their ancestors, was considered as ‘non-formal’ vocational training through ‘other’ sources.

It is perplexing then, that even though vocational training was defined in such broad terms, 88.6% of the respondents still said they had received no vocational training, formal or informal. In a similar vein, when the 1993-94 NSS survey asked if respondents possessed one of 30 specific skills with the option of saying “other” or “no skill,” it found that only 10% of the population reported having any specific formal or informal skills. This despite the fact that “skill” was defined very broadly as

...any marketable expertise however acquired, irrespective of whether marketed or not, whether the intention is to market it or not. (Government of India, 1997, p. 9)

Coming specifically to the case of weavers, who form the subject of this study, an analysis of Government of India (2006) data reveals only 10% of weavers across the country reported schooling beyond the middle school level. However comparison of schooling data for all weavers (Government of India 2006) to schooling data for working owners of weaving firms (Government of India 2008) reveals an interesting pattern. While the percentage of working owners progressing beyond middle school remained similarly small (15% as opposed to 10% for all weavers), Figure 2.1 shows that 85% of working owners had some schooling, as opposed to only 60% for the general weaver population, and almost 30% of working owners had finished middle school compared to only 13% for all weavers. Thus the schooling distribution is significantly displaced towards the right for working owners. Of course the causal implications of this are not clear from this data. It could be that individuals coming from relatively better-off families were both better educated and more likely to own their establishment, or it is also possible that some schooling is an aid to entrepreneurship which is likely to require interaction with the State or other formal sector establishments.

**Figure 2.1.** Percent working owners versus weavers with given level of formal schooling.

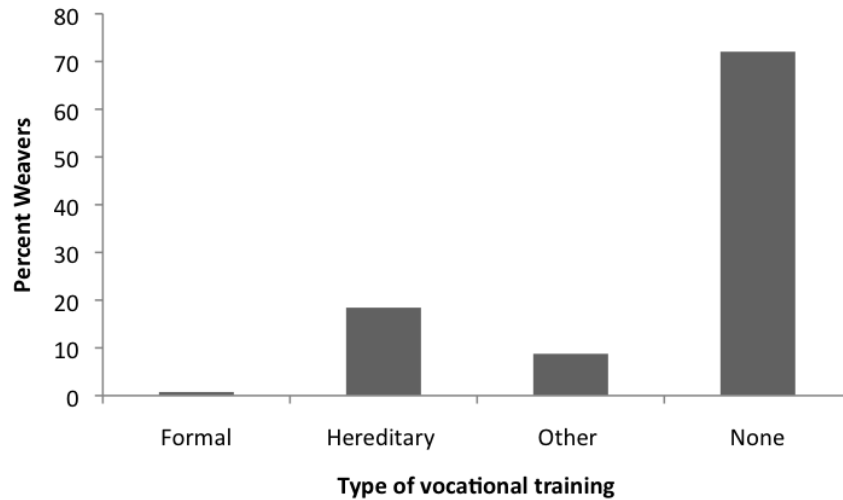


Sources: Author's calculations based on Government of India (2006) and Government of India (2008b)

It is well-known that weavers, as a population, are poorly educated as far as general schooling is concerned. As mentioned earlier the extent of technical and vocational training would be a better indicator of the importance of formal knowledge in work. The vast majority (97.6%) of weavers report having no formal technical education or vocational training (Government of India, 2006). Here one important consideration is that access to formal technical institutions is conditioned on completion of high school, a fact clearly underlined by the NSS data which shows that only those who have completed some form of college education report also having received formal vocational training. One might think that this lack of formal training is not surprising given that handloom weaving is still a profession dominated by hereditary apprenticeship methods. However it is noteworthy that this data includes powerloom weavers as well. And though we are not able to separate powerloom from handloom weavers, since the survey did not collect this information, we know that they constitute a significant proportion of the weaving population. If formal training was important in the powerloom sector it would show up in the aggregate data. The

fact that over 97% weavers are not formally trained suggests that non-formal methods of training are predominant in both sectors. Figure 2.2 shows the distribution of weavers aged 15-29 years who reported no formal technical education (i.e. 99.4%), according to the type of vocational training they reported receiving. As noted above vocational training has been defined very broadly here to include traditional apprenticeship methods and on-the-job training. It is surprising then that only 27.2% report having received hereditary or other non-formal training while fully 72% report having no form of vocational training at all, despite the broad definition of what constitutes such training.<sup>1</sup>

**Figure 2.2.** Percent weavers who report receiving given type of vocational training.



Source: Author's calculations based on Government of India (2006)

On the basis of the 1993 NSS skill data discussed above, the Sengupta Commission concludes that “nearly 90 per cent of the population above 15 years did not have any skills” (Sengupta et al., 2009, p. 191). In contrast to this, I suggest here that

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<sup>1</sup>While the figure of 18.7% for hereditary training is nearly 5 times higher than the proportion of people reporting hereditary training among non-weavers (3.9%), it is still much lower than expected.



the process of knowledge acquisition in the informal sector is such an integral part of working and earning a livelihood that respondents simply do not distinguish “working” from “training.” Questions specifically targeted towards training elicit negative responses because people have a particular image in their minds of what constitutes being trained. This may include “going to school,” receiving a certificate, or in general something to do with that untranslatable Hindi phrase *likha-paDhi* which implies written knowledge, books, etc. Neither does absence of training mean total independence from or ignorance of “scientific knowledge” either embodied in equipment and machinery or in products and procedures. This is not “traditional knowledge” in that sense. Its content is complex, drawing from whatever sources are available, as any dynamic knowledge tradition should do.

If the conclusion reached by the Sengupta Commission based on the apparent lack of skills is taken at face value, we expect that informal firms should complain frequently regarding lack of expertise or knowledge. However, they do not do so and the commission’s report notes that

Certain obvious constraints that are well recognized as affecting informal enterprises significantly, such as skills and technological development, are not reported by enterprises at all. (Sengupta et al., 2009, p. 267)

That is, they are “well recognized” by policy-makers not by the firms. The report goes on to cite a study of garment production in Ahmedabad where “neither men nor women in the sample felt that they lacked the skills needed for their work” (*ibid.*). On the other hand lack of finance and lack of access to market and infrastructure are mentioned frequently. Of course, it would be wrong to infer that informal enterprises are always uninterested in new knowledge or techniques. Rather it is not among the top two or three binding constraints experienced by them. Such examples of “lack of interest” may be multiplied. Anecdotally, an agricultural extension officer once told me that, on his visits to villages, farmers described advice on technical matters

as “empty talk” and were much more interested in support prices and government schemes. Another striking example comes from Banaras. Here the office of the Development Commissioner of Handlooms which administers schemes such as loans and health insurance for weavers is always alive with Ansari weavers in their trademark lungis, half-sleeve shirts and caps. On the other hand the Weavers’ Service Center, which is supposed to be a “nerve center for the design development and the training of the weavers” (cited in Srinivasulu (1997)) is deserted. In a similar vein Pandey (1981) found in his survey of 300 Banaras weavers that only 5.6% said they required further training in weaving technique or repair and maintenance of looms. The author also notes that “there is a weaving institute in Varanasi but hardly any weaver goes for training in that institute.” (p. 87). Is this simply bull-headedness or ignorance of their ignorance on part of the lokavidya-holders? Or is there something more to it? At least part of the answer to these questions lies in investigating the strengths and limitations of the knowledge that peasants and artisans rely on.

## **2.3 Traditional/Indigenous Knowledge**

As noted in the introductory chapter, two developments during the latter half of the twentieth century have contributed to the rise of interest in lokavidya. One was the advent of the “Knowledge Society” and the other the new paradigms of participatory and sustainable development which were a reaction to the perceived top-down and ecologically destructive nature of prior development models. The latter gave cause to searching for and finding people’s perspectives on modes of development and the former created the global conditions necessary to recognize the knowledge that informed those perspectives. The ensuing voluminous literature on indigenous and traditional knowledge can be broadly divided into two parts.

One part emerges from the work of anthropologists on “ethnoscience” and focuses on the problems and possibilities of integrating this knowledge into development prac-

tice. This literature is concerned with demonstrating that the targets of development also *know* and that it is advisable or necessary (depending on the view of the author) to formulate projects and policies that are informed by their knowledge. Both theoretical and empirical studies have been produced in support of this proposition. At the empirical level several studies attempt to compare and contrast scientific and traditional knowledge in a particular area (say plant breeding, biodiversity or medicines) or compile successful examples of the use of TK/IK in development projects. At the theoretical level anthropologists have tried to come to grips with what exactly is TK/IK and how it differs from scientific knowledge. One of the earliest volumes is Brokensha et al. (1980), whose aim is to emphasize the “necessity for development planners to take into account the accumulated knowledge and traditional skills and technology of the people among whom they work” (p.1). Even though this and subsequent volumes of this genre are dominated by case-studies of ecological knowledge, there are some exceptions. In a chapter in this volume Gladwin (1980) chooses to focus on women fish-sellers in Ghana and analyzes their knowledge of the fish-market. The widening focus is obvious in Warren et al. (1995) which catalogs studies on IK into agroecological knowledge, indigenous decision-making systems, indigenous organizations and indigenous experimentation. Although industrial (as opposed to agroecological) knowledge was largely neglected in the field for a long time, an exception is Thomasson (1995) who examines steelmaking among the Kpelle in Liberia. His observations of the Kpelle technology and its fate under colonial and post-independence Liberia is reminiscent of the Agaria iron-smelters of India (Sahasrabudhey, 2001). More recent publications such as Sillitoe et al. (2002) have attempted to engage at a theoretical level with TK/IK. However most theoretical attempts have gone in a philosophical direction rather than grounding this knowledge amidst work and social relations that produce it. But more on this later.

Owing partly to its roots, the literature on TK/IK has focused much more on rural communities, while urban populations have been comparatively neglected. But this too is changing. For example, the World Bank, in a 2004 volume titled “Poor People’s Knowledge: Promoting Intellectual Property in Developing Countries” (Finger and Schuler, 2004), moves away from the indigenous and rural connotations of this knowledge to include urban craft knowledge also. This is mainly because the report is not concerned with how to formulate better development policy but with how to help the poor earn incomes based on their knowledge. It starts with the observation that the poor maybe lacking in resources but they do not lack knowledge and focuses on using knowledge in an instrumental way to achieve the integration of the poor into the global economy via trade in crafts and other commodities. Such integration raises the question of intellectual property rights which brings us to the other half of the literature on TK/IK dominated by law scholars and economists, which focuses on the question of IPRs, and specifically on two major questions, should private IPRs (like patents) be allowed for knowledge products derived from TK/IK and what are the appropriate IPRs for protecting TK/IK from piracy and for generating revenue for its holders? The first question, motivated in part by high profile “biopiracy” cases such as those of neem, turmeric and Basmati rice (Shiva, 1997; Subbiah, 2004) will not be our concern in this study. The second is relevant to the study because one outcome of the discussion on IPRs and TK has been the emphasis on Geographical Indications as the appropriate property right to create for TK/IK, discussed further in Chapter Four. The World Bank and the World Intellectual Property Organization (WIPO) have both taken a lead in pushing the IPR agenda for TK/IK.

One question that both types of literature have had to contend with is the basic one, what is traditional/indigenous knowledge? This question can be further separated into two parts, what type of knowledge is it? And who are its holders? The corollary being, what to call it? As we saw in the Introduction there are a plethora

of adjectives applied to this knowledge. Some describe the knowledge itself (such as “informal,” “tacit,” or “local”) and others describe the communities which are supposed to hold it (such as “traditional,” “indigenous,” “poor-people,” and once again “local”). Implicit in each label is a contrast with some other type of knowledge, scientific, formal, Western and so on. The relative merits and demerits of these labels need not detain us here, and in any case are easy to imagine. One aspect of the politics of naming that is worth pointing out is that these terms have been criticized for eliding the hierarchy between the two knowledge systems and hence yet another label, “subaltern knowledge,” has been suggested (Kothari, 2002). But it has not caught on.

The “Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore” of the World Intellectual Property Organization (WIPO) has been charged with undertaking the negotiations leading to “international legal instrument (or instruments) which will ensure the effective protection of traditional knowledge (TK), traditional cultural expressions (TCEs)/folklore and genetic resources.” One of the definitions of TK being considered by the committee is the following:

Traditional knowledge means knowledge including know-how, skills, innovations, practices, and learning which is collectively generated, preserved and transmitted in a [traditional] and intergenerational [context] within an indigenous or local community. [resulting from intellectual activity in a traditional context including the know-how, skills, innovations, practices and learning that form part of the traditional knowledge systems of an [indigenous people or local community].<sup>2</sup>

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<sup>2</sup>The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore was established in October 2000. The quotations are taken from the draft articles resulting from its 19th session in July 2011. The documents are available here: <http://www.wipo.int/tk/en/igc/index.html>

One of the alternative definitions points out that TK is “dynamic and evolving” and includes “scientific knowledge.” Leaving apart the terms that can describe any knowledge (know-how, skills, innovation, learning etc) the operative terms in the definition are “traditional and intergenerational context” and “indigenous people or local community.” The WIPO definition is quite similar to most working definitions seen in the literature, in the sense that it identifies the key features of the TK/IK as knowledge that is possessed by an indigenous, traditional or local community, passed on from generation to generation, and is context-specific, and local in its applicability. Other characteristics mentioned in the literature are that it is passed on orally and mostly concerns ecological, agricultural and medicinal practices.

One theme that runs across both types of literatures discussed above is that TK/IK, by virtue of being oral and informal, needs to be systematized. Since the commanding heights of the world of knowledge belong to knowledge that has been formalized, systematized and documented (increasingly on the internet), the natural impulse with regard to lokavidya, once it has been discovered, is to document it so that it may become visible. By and large, it is taken as self-evident that such documentation is necessary. After acknowledging that “local ecological knowledge” (LEK) has the potential to help in developing alternatives and empowering local people, Davis and Wagner (2003, p. 466) assert that “few would dispute the view that this potential is only realizable through a process that will first carefully and thoroughly document LEK systems.” Instances of such sentiments may be multiplied.<sup>3</sup> So lokavidya cannot be accorded status of full, unqualified knowledge unless it is documented. Otherwise when seen from the perspective of organized knowledge it appears un-noteworthy. A proposed solution, which has received wide support, is the

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<sup>3</sup>For example, Warren (1995, p. 4): “By recording knowledge and making it available to the global community, I am confident that community-based knowledge systems will in the near future begin to be regarded as contributions to global knowledge.”

construction of knowledge databases. Those interested in “saving” or “preserving” knowledge see online databases as virtual homes for knowledge that is vanishing from the real world. Those interested in applying TK/IK to development see them as a way to legitimize this knowledge by making it scientific. And finally, they are also recommended by those interested in developing IPRs in this knowledge since availability of databases makes the task of identifying prior art much more tractable.

In a critical look at the database project, Agrawal (2002) identifies three stages to the process, viz. selection (he calls it particularization), validation and generalization. First TK/IK relevant to the development process is selected, next its scientific portions are isolated and the rest discarded and finally it is cataloged, archived and circulated for general use in contexts other than where it was first identified. Of course those in possession of this knowledge *already know* its usefulness and its limitations. Legitimization via systematization is thus needed for those doing the systematizing rather than for the producers and users of the knowledge. Agrawal points to the “violence” of the process. First, only knowledge that is deemed worthy of archiving by the database creators (that are usually international NGOs or aid agencies) is selected, the rest left to its fate. Second, TK/IK is valorized and mainstreamed only to the extent that it can be “scientifically tested.” Third, he points out that the very quality of TK/IK that makes it work, its specificity and context, are lost in the homogenization of the database. And lastly, a more sinister implication is also raised: “Once the knowledge systems of indigenous peoples are separated from them and saved, there is little reason to pay much attention to the indigenous peoples themselves” (Agrawal, 2002, p. 294). Documentation efforts can lead to two unfortunate consequences: “One they channel resource away from the more vital political task of transforming political relations. Two they provide a means to more powerful social actors to appropriate useful indigenous knowledges” (*ibid.*). Is there a conceptual affinity between the cataloging of TK/IK in databases and the “systematization” of

artisanal knowledge in procedures, rules and formulae as Frederick Taylor, the father of “Scientific Management,” envisioned? Perhaps the link is not as far-fetched as it first seems. Taylor (1998) begins by noting that the “principal asset of every tradesman” is the accumulated mass of “traditional knowledge” passed down with a trade from generation to generation, with the best practices surviving to present day. The challenge is to reduce it to “rules, laws and formulae.” Thus both Taylor and the TK/IK database advocates are motivated by an impulse to systematize unruly, informal knowledge, to separate the old wives’ tales from the useful bits, in order to increase the effectiveness of that knowledge, for development in the former case and for productivity in the latter. Behind the rhetoric of effectiveness (in case of Taylor) or preservation and legitimization (in case of TK/IK) this can easily make way for greater control over the knowledge by those who have systematized it. This is almost explicit in Taylor’s case, but of course much less so in case of TK/IK.

## 2.4 Knowledge, Work and Gender

Lokavidya is knowledge produced in working and living. This makes it ubiquitous but also invisible. What was described above as TK/IK is part of lokavidya, but the latter is much larger in scope and significance. It might be asked if such a broad definition leaves any knowledge out, since all knowledge requires action upon the world to generate. To answer this question, let us reflect on another question. If the knowledge of crop varieties built over centuries of agricultural practice is lokavidya, what is the knowledge found in a “traditional knowledge digital library” of crop varieties? If the knowledge of dyes and fabrics accumulated over centuries of weaving is a type of lokavidya, what is the cataloging of this knowledge in a description of weaving or an exhibition of textiles? These rhetorical questions are meant to underline that fact that production and application of knowledge are not to be confused with its formalization and representation. Lokavidya is *in situ* knowledge. Removing it from



its living social context and converting it into “dead” knowledge removes it from the control of those who produced it and puts it in the service of its new masters, those who have compiled and cataloged it (who are usually not the lokavidya-holders). Such knowledge is a representation of lokavidya produced for the purpose of controlling it. In other words it may be TK/IK but it is not lokavidya.

In much of the work cited above, lokavidya is taken as given, as already existing, the problem being how to identify it, protect it, or use it. It is much more difficult to find discussions on what makes it different from other types of knowledge in substantive or epistemological terms, how exactly it is produced and under what conditions, and what role does labor or work play in the process. The result, to paraphrase Australian aboriginal scholar Martin Nakata, is that the TK/IK projects seems to have everything and nothing to do with the people whose knowledge is being talked about (Anderson, 2009, p.8). Communities which possess this knowledge appear to be homogenous entities with neither class nor gender dynamics. It is to these issues that I turn now.

Relating knowledge hierarchies to class, Kropotkin (1912, p. 165) observes that “In older times men of science...did not despise manual work and handicraft.” This theme has been echoed since by several historians of science who point out that philosophy, science and mathematics were once the product of artisans and manual workers, and grew in intimate connection with the solving of practical problems, rather than divorced from them (Chattopadhyay, 1986; Conner, 2005; Farrington, 2001; Zilsel, 2003).<sup>4</sup> The ancient relationship between artisanal production and the development of science and technology continued down to the period of the Industrial Revolution in England, where such iconic figures of the new order as James Watt

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<sup>4</sup>Further the contribution of the artisan was not limited to technical knowledge. Medieval India produced many artisan-thinkers. Some prominent examples from the bhakti (devotion) religious tradition are Namdev, the tailor, Gora, the potter, Raidas, the cobbler, and Kabir, the weaver.

and George Stephenson were also craftsmen. The typical artisan was tied to the scientific and technical knowledge of the time as embodied in the daily practices of craft. The emphasis on systematization of craft knowledge by Francis Bacon, Rene Descartes and Robert Boyle, and the latter's impressive list of hundreds of crafts relevant to the development of Science suggest the seriousness with which these highly influential figures in the history of Science (with a capital "S") took craft (Conner, 2005). But lest it be thought that all this knowledge lay chaotically dispersed awaiting a true scientist to systematize it, note that Landes (1969, p. 63) found the theoretical knowledge of the craftsmen of the Industrial Revolution "striking" and denied that they were "unlettered tinkerers of historical mythology." He emphasizes that "the growth of scientific knowledge owed much to the concerns and achievements of technology; there was far less flow of ideas or methods the other way ..." (p. 61). And Braverman (1974, p.133) notes that craft apprenticeship

commonly included training in mathematics, including algebra, geometry, and trigonometry, in the properties and provenance of the materials common to the craft, in the physical sciences and in mechanical drawing.

In this context one may even make bold to say that Isaac Newton's famous statement about standing on the shoulders of giants refers at least partly to shoulders of artisans and craftspeople, folks who had never been to a university nor belonged to a scientific society.

In case the objection be raised that university science hardly existed at this time and thus the question of its relationship with artisan science is moot, it should be pointed out that the artisan was not, even then, a revered figure in educated circles. Even as celebrated a "renaissance man" as Leonardo da Vinci, lacking a classical education, was not granted the status of a "man of letters" and lashed out against those who "strut about puffed up...and adorned not with their own labours but by

those of others.” (Conner, 2005, p. 263) The words of Paracelsus, admonishing the learned men, ring true today after 500 years:

They exploit the poor by pretending to knowledge they do not have. The common people are spiritually and intellectually superior to their social betters. If the notables would reform themselves, they would do well to go to the peasants and artisans to...imbibe a genuine knowledge of nature.

(Conner, 2005, p. 303)

All this is to say that the bulk of what constituted science, except perhaps the most rarefied of theory in physics and mathematics, was the legitimate domain of the working class and was produced not in “science factories” but in real ones.

The transition from the home and the workshop to hierarchically organized workplaces with layers of management transformed the experience of work for a majority of the working class in the industrialized economies. Predominantly non-capitalist production relations, in which the family played an important part, gave way to a capital-wage labor relation. This change in production relations and its implications have been widely discussed and debated but the concomitant changes in the social relations of knowledge production have not. Early research on the history of the labor process under capitalism did of course explore the ways in which an artisan or a peasant turns into a laborer. This required the elucidation of the specific mechanisms through which the technical basis of production as well its organization and management were removed from the control of the worker. The canonical trajectory of production was theorized as follows. Complex tasks requiring skill would be simplified and subdivided reducing the average level of skill in the workplace, already simple tasks would be mechanized and managerial hierarchy would arise to coordinate and control the labor process. Machines, managers, and rules would replace the worker’s knowledge.

The prophet of this transformation was F.W. Taylor. Taylor recognized that his methods and techniques were as much about gaining control of the labor process by removing its self-directed nature as they were about maximizing labor productivity. He envisioned a change in the knowledge-basis of production. Since the managers recognize that “workmen, included in the twenty or thirty trades, who are under them, possess this mass of traditional knowledge, a large part of which is not in the possession of management” (Taylor, 1998, p. 32), the problem is how to obtain the best use of this knowledge from the worker. Under “ordinary” management regimes (i.e. management techniques of Taylor’s time that he sought to change) this is very difficult even with the administration of incentives to workers to use this knowledge to the employer’s benefit. Under scientific management this problem is solved by managers assuming duties “never dreamed of in the past.”

The managers assume...the burden of gathering together all of the traditional knowledge which in the past has been possessed by workmen and then of classifying, tabulating, and reducing this knowledge to rules, laws and formulae... (p. 36)

While Taylor’s characteristically disingenuous method of writing makes it sound like a new era of cooperation between workers and their managers has been heralded, as is well-known, most such innovations in management of the labor process were resisted by workers. Specifically the attack on knowledge did not go unnoticed or unresisted. Braverman (1974, p. 94) quotes an editorial from the *International Molders Journal* which complains of the separation between craft knowledge and craft skill by which is meant

the gathering up all this scattered craft knowledge, systematizing it and concentrating it in the hands of the employer and then doling it out again only in the form of minute instructions, giving to each worker only the

knowledge needed for the performance of a particular relatively minute task.

It may be pointed out that this process was not restricted to scientific or technical knowledge, but was extended to knowledge of management as well as other aspects of the organization of production.

However this transformation is far from complete under contemporary capitalism. Capital is not interested in knowledge, whether scientific or traditional, but rather in value. The extraction of value is not deterministically linked to any one mode of management or any one type of knowledge. Capital vacillates between the tendency to simplify, control and manage, which requires routines, mechanization and procedures, and the need to grant workers a measure of autonomy and control which requires flexibility and participation. Changing management trends reflect this fact. Even though labor process theorists acknowledged that Taylor's project was never completed, the triumph of Science, the demise of craft and the final separation of menial and mental labor have been taken as a *fait accompli* and perhaps for this reason recent labor process literature, while discussing mechanisms of control and rise or decline of skills, does not focus on knowledge *per se*.<sup>5</sup> After some initial incisive attempts to theorize the mode of creation of new knowledge hierarchies under capitalism by writers such as Braverman (1974) and Marglin (1974), labor process theory has not pursued this theme with the seriousness it deserves. In Chapter Three I take this theme up further when I examine artisanal knowledge in Indian weaving.

Work is gendered in all societies and since *lokavidya* is generated in work, it follows that this knowledge is gendered too. For example, care work including health care is typically women's work, and women's expertise in medical knowledge is widely known, as is their knowledge in related matters of food security and agro-biodiversity.

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<sup>5</sup>Scott (1998) while not writing in the labor process tradition, makes important observations in this regard. His work is discussed in the next section.

In parts of Africa where women are the primary workforce in farming, they are also the bearers of agronomical and ecological knowledge. And finally, food processing and textiles (spinning and weaving) have been, for centuries, women-dominated industries. In fact women often perform the major share of work in production and reproduction of society performing paid market work (either on their own account or as wage workers), unpaid market work (as family workers) and direct and indirect care-work. In developing countries these include agricultural wage labor, unpaid work on family farms, home-based manufacturing and service activity, provisioning of fuel, water and other resources, as well as market work outside the home, for example in the construction and retail sectors. But much of this work is invisible, literally because it is carried out inside the home or metaphorically due to patriarchal ideology or both. Since women's work is not "real work," their knowledge is not "real knowledge." These issues are discussed further in Chapter Five.

Feminist thought and practice have made significant progress in raising women's work into visibility, but the question of knowledge generally has been implicit, if present at all. The major exception is ecofeminist thought which places emphasis on women's ways of knowing, sometimes even to the point of opening itself up to the charge that it retains male and female essences, as in patriarchal ideology, only inverting their valences (as in the case of Vandana Shiva's writings). In a limited way, the TK/IK movement has brought women's knowledge into visibility by focussing principally on ecological and medicinal knowledge of women. The strength of the lokavidya perspective is that it does not only open avenues for cataloging knowledge that women possess, but rather allows us to connect women's knowledge to larger political issues. For example, women have historically played an important role in subsistence production as well as in local markets (as opposed to long-distance trade) (Bennholdt-Thomsen and Mies, 1999). Women's knowledge in these area is a source of their strength and their ability to resist displacement and dispossession. Much beyond

the celebrated image of tree-hugging women in the Chipko struggle, women have played an important role in nearly all recent movements against displacement. From a lokavidya perspective, the basis of their actions lies not in a romantic attachment to traditional lifestyles but instead in an assertion of the right to live by one's own knowledge.

## 2.5 Lokavidya versus Science?

With the emergence of a voluminous literature contrasting scientific knowledge and TK/IK, even essentializing them, it was unavoidable that the dichotomy would be questioned. In a highly cited article Agrawal (1995) asks if there is, after all, such a big difference between “indigenous” and “scientific” knowledge. He questions the validity of the substantive, methodological and contextual dimensions along which the two are often contrasted, pointing out that their domains of inquiry are not radically different (ultimately being the physical world and how to interact with it) and neither are their methods. For making the latter point Agrawal points to the failed attempts of twentieth century philosophy of science in demarcating science from non-science (the so-called “demarcation problem”). If there can be no stable, reliable criteria for distinguishing science from non-science, on what basis can we methodologically distinguish science from TK/IK without resorting to the type of definition we saw earlier of TK/IK as knowledge possessed by “local people” or “indigenous communities,” which is the same as saying “Science is what scientists do.” Finally, questioning the view that indigenous knowledge is more context-specific than scientific knowledge, Agrawal points to contemporary science studies scholars who emphasize the context-based nature of actual scientific practice (know-how) as opposed to the textbook knowledge of Science (know that).

Interestingly, quite separate from the TK/IK literature, the view that all knowledge is produced in work or via action is gaining currency in a wide variety of fields

from science studies to the psychology of learning to the comparatively new field of knowledge management. Terms such as “situated learning” and “working knowledge” attempt to communicate this idea. The three claims of the working knowledge perspective outlined by Barnett (2000, p. 17), that work is a site of knowledge generation, knowledge is only authentic if it can be put to work and work is a means of testing knowledge, are all also lokavidya claims. What distinguishes lokavidya is not that it is old or traditional or local or tacit or disorganized, but that it is learnt through practice and never in any other way. Lauer and Aswani (2009) appreciate the significance of this shift in thinking about knowledge. Tracing the “science-based” model of decontextualized learning to Cartesian mind-body dualism, the authors note that academic scholars in indigenous knowledge research, psychology and sociology

disagree with the assumption that knowledge and the learning process are “contained in the mind of the learner,” separated from the lived-in world . . . Instead, they promote a practice-oriented view of knowledge that stresses the emergent, relational, embodied, and contextual dimensions of knowledge that are “constituted by a past, but changing, history of practices” (p. 323).

Further this type of learning is not just found in “small-scale societies” but is an alternative approach for understanding contemporary industrial societies also. “From a practice perspective, all knowledges are local and contextualized” and this “places all forms of knowing on an equal playing field” (*ibid.*, p. 323).

An indication that the production of scientific knowledge also relies on practice and context is the shock experienced by beginning PhD students in science laboratories who discover that it is one thing to “learn the facts” as an undergraduate and quite another to “get results” in the laboratory (Delamont and Atkinson, 2001). The latter requires craft knowledge, know-how, which produces living knowledge and in the absence of which “nothing works,” while the former is only memorization of dead



knowledge. The idea that the actual practice of science deviates significantly from its “public face” and is based on craft knowledge has a distinguished pedigree, having been advanced by prominent scientists such as Michael Polanyi, but it still has an “underdog” status in the official mythology of science.<sup>6</sup> Even though scientific practice relies on craft knowledge, the model of education based on science emphasizes decontextualized learning. This was the “shock,” in our example above, that undergraduates experienced when they started PhD work. Commenting on this “science model of learning” (Lave, 1996, p. 6) notes that

Conventional theories of learning and schooling appeal to the decontextualized nature of some knowledge and forms of knowledge transmission, whereas in a theory of situated activity “decontextualized learning activity” is a contradiction in terms.

In this view, learning is participation in social practice through well-defined social roles. As I will show later (Chapter Three) this type of learning seems characteristic of lokavidya acquisition. But it is also worth noting that lokavidya is not just tacit knowledge which each worker acquires for herself. It can be transferred, it can be taught. But learning occurs in context, knowledge is acquired even as it is applied. And the results of its application form the basis of its validation and improvement. “Situated learning” theory in psychology (see Lave (1996) and articles therein) describes this process whose classical embodiment is apprenticeship. As I will show later in the case of Banaras, the apprentice is already a worker, just as the artisan is always a student.

The general importance of non-formalizable knowledge to all human activity and particularly to economically significant work has been addressed by Scott (1998) in his discussion of *metis* and Marglin (1990) in his discussion of *techne*. Both *metis* and

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<sup>6</sup>Michael Polanyi, brother of Karl Polanyi, is credited with one of the early studies on the importance of “tacit knowledge” in scientific research (Polanyi, 1962).

technicians refer to knowledge that cannot be formalized in procedures or systematized in routines. The existence of such knowledge means that all work, however rule-bound or procedural it appears, has a cognitive component. This idea receives support from management scholars who are eager to demonstrate that the Knowledge Age has arrived. For instance, Brown and Duguid (1998) cite the example of Xerox technicians who service machines on site. They “carry with them extensive documentation about the machines they work with” and they work alone, but they “take great pains to spend time with one another at lunch or over coffee ... [and] swap ‘war stories’ about malfunctioning machines that outstripped the documentation.” The following description of the knowledge of Xerox technicians qualifies it as pure *metis*. They

develop highly insightful knowledge about the situated use (and misuse) of the complex machines they service ... an inexhaustible range of uses (and abuses), the possible combinations make it impossible to calculate and anticipate all behaviors and problems that might arise. Knowledge about these only emerges in practice. Yet mental-manual divisions tend to make this knowledge invisible to the organization as a whole. (Brown and Duguid, 1998)

Thus *metis* is not TK and Scott is at pains to make this distinction by asserting that the term “traditional” sends out “all the wrong signals” and by offering examples of how quickly “traditional peoples” incorporate new knowledge that solves problems. The example may be advanced of women in African drylands adopting neem for multiple uses (including as antiseptic, for soil fertilization and erosion prevention) even though the tree has been in the continent for less than a hundred years (Knabe and Nkoyok, 2006). Similarly Dickie and Frank (1996, p. 52) observe that,

... even seemingly “traditional” crafts may be a recent innovation. The stone carvers of Membrillo, Panama have worked in their medium for only

the past 20 years or so, following the discovery of a vein of soapstone in a riverbank in the vicinity. One of their most popular carving subjects is the elephant, although no one in their cooperative has ever seen an elephant. Why elephants? Because the Asian tourists who come to the El Valle de Antn market or the artisanal shops buy them for good luck.

In the Indian context, Anil Gupta of the Honeybee Network has been arguing the case for little known rural innovators (Gupta, 2007). Scott avers that the point he is making (the dynamism of practical knowledge) would not need to be emphasized except for the fact that “a certain understanding of science ... has so successfully structured the dominant discourse that all other kinds of knowledge are regarded as backward, static traditions ...” (p. 331). Of course as Scott knows, and as I have emphasized above, the image of science differs greatly from its practice, and the latter is not that different from the practice of lokavidya.

To conclude, lokavidya is not traditional or indigenous knowledge although it may include knowledge commonly so labeled. It is not knowledge that has survived the onslaught of modernity. This is because it is generated and maintained through practice and practice is by definition contemporary, since one cannot act in the past. By grounding knowledge in work, we make it a dynamic concept and we spirit it away from the prison of dichotomies such as traditional/modern or indigenous/scientific. Lokavidya, in contrast to traditional knowledge, constantly evolves, adapts and changes. It does not seek to tie people to ways of knowing and doing of the past for its own sake. The sole criterion is the use and control (production and management) of the knowledge by the people in the course of their ordinary life. The conventional division between “knowing that” and “knowing how” recast by Marglin as the division between episteme and techne and by Scott as “high modernism” and “metis” also does a disservice to lokavidya. If lokavidya is not TK or IK, neither is it only metis or know-how. Effective artisanal practice is born out of a successful

marriage of the two types of knowledge. Knowing how depends on knowing that and vice versa. A hierarchy emerges as different types of knowledge compete for resources. Systematized (or “Taylorized”) knowledge places itself in the service of capital and therefore emerges the winner.

## CHAPTER 3

### **“FREEDOM THAT DOESN’T FILL THE STOMACH”: PRODUCTION RELATIONS AND ARTISANAL KNOWLEDGE IN INDIAN WEAVING**

#### **3.1 Introduction**

Knowledge of peasants and artisans results from a ceaseless process of thought and action, as outlined in the previous chapter. Production relations, that is relations between those who own the means of production and those who work with them, those who control the labor process and those who perform it, shape the relationship that the working class has to knowledge production and use. Frederick Taylor recognized this when he sought to convert self-directed artisanal labor processes into other-directed assembly line ones. The resulting “deskilling” of artisans into workers remains a controversial theme in labor process theory, but there is agreement on the fact that professionalization of technical and scientific knowledge, the separation of conception from execution and the institution of deep technical division of labor as well as managerial hierarchies have altered the relationship that the working class has to knowledge. Thus any study of lokavidya or knowledge of peasants, artisans and other constituents of the “informal economy” must start with an empirical account of the relations of production in that economy and connect this to the institutions of knowledge production and transfer.

If production relations shape knowledge processes, could it be that the reverse is also true? Does the presence of robust artisanal knowledge traditions sustain production relations that are able to take advantage of this knowledge? It is the contention of this study that the continued existence, even dominance of putting-out

and the resurgence of home-based and small shop production relies on a knowledge-commons accessible free of cost to capital via a working class which no State has trained for the work it performs. This mode of production entails a different mode of knowledge appropriation from the one envisioned by Taylor. This mode exploits the worker not by constructing deep managerial hierarchies and an other-controlled labor process in a factory or office setting, but rather by ensuring coordination and control over dispersed production and self-directed labor processes. If the “boss’s brains are under the worker’s cap” this mode is content to let them remain there, more or less. For the employer, this reaps the advantages of reduced managerial and overhead costs while retaining control of the production process and achieving a fragmented labor process as well as dispersed, difficult to organize, labor.

Two caveats are in order before we proceed. First, there are trade-offs involved. Putting-out persists, not because capitalists seek to preserve artisanal knowledge, but either because cheap labor (and knowledge) outweigh the traditional economies associated with large shop production or because the production process is not sensitive to economies of scale (or both). And second, it is not being suggested that the persistence of putting-out relations and artisanal labor processes is explained solely by the presence of artisanal knowledge traditions. Certainly, other factors such as surplus labor, depressed value of labor power and inadequate capital accumulation in large-scale industry also play a role in keeping artisanal production competitive with factory production. Rather I wish to add the knowledge dimension to this well-known list.

I undertake this study using the example of artisanal weaving. Due to its historical, economic and cultural significance weaving has received much attention in the policy as well as academic literature. But a few key areas still remain understudied. For example, at the national-level, datasets such as the National Sample Survey of unorganized industry can provide valuable information on production relations in

handloom and powerloom weaving, but are underutilized for this purpose. At the case-study level too little work has been done on key issues such as how wages are determined, how technical change is affecting artisanal skills, or how class differentiation is occurring in weaving communities. And finally, even though weaving is widely regarded as skilled work, no study has asked how the existing production relations enable the reproduction and appropriation of artisanal knowledge, how apprenticeship methods work and how the weavers themselves value their skills. These are all issues that the present work seeks to address. This chapter has two aims, first to fill a gap in literature on production relations in the decentralized weaving sector, the second largest industry in India in terms of employment, using national-level data on the informal manufacturing sector, and second to examine how these production relations sustain and are sustained by an artisanal labor process using primary survey and interview data from the Banaras Sari Industry.

## **3.2 Background**

### **3.2.1 Production Relations in Weaving**

Historical (archival) work as well as contemporary case studies reveal that three principal type of weavers have existed in India at least since the 16th Century, viz. independent weavers who produce on their own account and sell directly either to consumers (rarer) or to merchants operating in local or long-distance markets (more frequent), dependent weavers working either under a master-weaver in a putting-out system or under merchant/finance capitalists (under what Roy (1993) calls wage contracts and price contracts respectively), and loomless weavers who work on a master's loom, either in their own home or at the master's workshop. Though the relative proportions and importance of the three vary over time and from place to place, the core elements of a putting-out system in weaving seem to have been in place in India since at least the 17th century. Dependency could be of various types, primarily being

distinguished by whether the capital in question was merchant, finance or industrial. Chicherov (1971) locates the spread of the “*dadan*” system, wherein the merchant capitalist offers a money advance to the producer and collects goods upon manufacture, to the growth of trade in the late Mughal and early colonial period. Ramaswamy (1985) recounts a two-tier system in place in Tamil Nadu, where the weaver produced goods on his own account and sold them locally but also produced for the export market, the latter commissioned by merchants. The author also reports on the rising importance of merchant guilds in determining products and rise of master-weavers from the ranks of weavers in the 16th and 17th centuries.

For the late colonial period (late 19th and early 20th century), the central question in handloom scholarship is whether handlooms declined due to competition from English and later Indian mills. This question is embedded in the larger debate on deindustrialization of India under colonial rule. A thorough discussion of this debate is outside the scope of this study. Suffice to say that, without detracting from the basic deindustrialization thesis (as reflected in the oft-quoted Barioch statistics that India’s share of world manufacturing output fell from 24.5% in 1750 to less than 2% in 1900), the early nationalist account of decimation of the weavers has been qualified in important ways. The impact of the mill seems to have been felt unevenly across India and also unevenly across products. Tirthankar Roy has written extensively on weaving in the late colonial periods, focussing specifically on the changes in the handloom industry that, in his estimation, enabled it to survive competition from English and Indian mills (and later powerlooms). He focuses on specialization in higher-value added and more skill-intensive products as one cause of the resurgence observed in the handloom industry in the early 20th century, after the decades of decline in the latter half of the 19th Century (Roy, 1989, 1993, 2002). Similarly Niranjana and Vinayan (2001) argue, on the basis of historical work on weaving in Andhra Pradesh, that specialization in coarser cloth for local consumption and finer



cloth for niche markets, both markets where mills were not dominant, enabled an increase in the number of handlooms in the colonial period.

Apart from product diversification and specialization, Roy (1989) identifies a rise in capitalist relations as another factor. The discussion on the emergence of capitalists from within the weaving castes (as opposed to the traditional merchant castes) often invokes Marx's distinction between the producer who accumulates capital and starts putting-out to fellow producers, and the merchant who employs capital accumulated via trading in putting-out. Both these are seen in Indian weaving and Roy (1989) locates the relative dynamism of handloom weaving in Western India (as compared to Bengal and Bihar) in the emergence of handloom factories and extensive putting-out systems organized by weaving castes themselves. In either case, Roy argues that the decentralized weaving sector consisting of handlooms and later powerlooms has survived by virtue of a transition to capitalist relations (i.e. growing use of wage-labor), not by increased self-exploitation of petty commodity producers. While this may be true of Western India, at the national level, as I show later using NSS data, independent production is still widely prevalent in weaving. Further, the Banaras case study also points to the importance of self-exploitation among artisanal families. However, it is also important to recognize that artisanal production has long been integrated with capitalist relations in Indian weaving. The enduring image of the artisan is that of an independent producer and this may be why there has been a tendency in popular and even policy literature to confuse poverty and distress among artisans with industrial distress. In fact accumulation and growth in an industry can and have proceeded alongside artisanal distress and at times because of it. As in the case of Banaras, internal class differentiation among weaving castes, renders the question "are weavers doing badly?" complicated to answer.

Compared to historical studies, work that describes production relations in contemporary handloom weaving is less abundant. As mentioned in the Introduction,

even as famous a weaving industry as Banaras has not a single book-length study devoted to its economics.<sup>1</sup> At the national level the bulk of information we have on contemporary weaving clusters comes from policy-oriented studies (Ahmad, 2007; Niranjana and Vinayan, 2001; Soundarapandian, 2002). A relatively recent source on weaving clusters across India is a set of 20 diagnostic studies prepared by various local agencies under the leadership of the Entrepreneurship Development Institute of India for the Ministry of Textiles. These studies have been carried out as part of the “Integrated Handloom Cluster Development Scheme.”<sup>2</sup> The general pattern that emerges from these studies is that problems of unavailability of credit and raw materials, lack of information on markets and misuse of government funds characterize a large number of clusters. The producer co-operative societies seem to function better in the southern clusters (such as in Andhra Pradesh) compared to the north (they are completely dysfunctional in Uttar Pradesh) even though regional variations also exist. With reference to Andhra Pradesh, researchers associated with the Dastkar Andhra group have recently produced some studies comparing performance of cooperatives to that of master-weaver run clusters as well as exploring the potential for handlooms to compete against powerlooms by producing high and medium value-added products and the prospects for reviving local markets (as opposed to long-distance or exports) for handloom products (Dev et al., 2008; Niranjana, 2004).

While the handloom sector has benefitted from policy attention due to interest in artisans and potential export markets, the vast and rapidly growing decentralized powerloom sector is even less studied. A good overview of the rise of powerlooms in the latter half of the 20th century is Roy (1998) which disputes the position that powerlooms are product of distorted or misguided State policy and puts the focus

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<sup>1</sup>The industry has been the subject of a few recent scholarly studies, such as a book on community identity among the Ansaris by Raman (2010) and an article by Ciotti (2007) focusing on the rise and decline of a weaving working class belonging to the Chamar (dalit or untouchable) community.

<sup>2</sup>The reports are available at: <http://www.indianhandloomscluster-dchl.net/DiagnosisStudy.asp>

on dynamics of capital accumulation in handlooms leading to diversification into powerlooms and also on the use of inter-firm networks and labor pools developed in the handloom sector. Apart from a few policy-oriented studies, the important sources for powerlooms in India are Haynes (1999) and Haynes (2001) which give some recent historical accounts of how workshops are organized and how they operate in centers such as Bhiwandi, Malegaon and Surat as well as de Neve (2005a) which is a book-length study on a powerloom industry in Tamil Nadu. As far as production relations are concerned, it seems safe to conclude that the powerloom sector shows greater diversity than handlooms, mainly due to the presence of large workshops (mini-factories) in the former. But there is a regional aspect to this. While western centers such as Surat are characterized by larger workshops where one operator can be found manning several machines, in the east (e.g. Banaras), workshops tend to be smaller and family-operated, with a usual ratio of one operator per machine (JCHP, 2004).

Generalizing beyond weaving, it appears that artisanal production still occupies an important place in the economy of developing countries like India. As we saw in the Introduction, what is known in policy terms as the unorganized or the informal sector is the primary site of artisanal production in India today. While there has been no shortage of empirical studies on India's informal sector, as illustrated with the example of weaving, the range and quality of studies analyzing production relations that exist for Indian agriculture does not exist for the rest of the informal sector. Nothing resembling the "mode of production debate" has taken place for informal industry, though good case-studies do exist.<sup>3</sup> Based on a survey of several case-studies as

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<sup>3</sup>For example de Neve (2005a) provides a detailed account of the powerloom industry in Tamil Nadu, de Neve (2005b) looks at relation of production among handloom weavers who supply to the Swedish store IKEA, Haynes (1999) looks at powerlooms in western India, Parry et al. (1999) is an excellent volume that brings together studies on various informal industries; Wilkinson-Weber (1999) is an anthropological study of Lucknow's Chikan embroidery industry; Varman and Chakrabarti (2006)

well as an analysis of National Sample Survey data, Basole and Basu (2011, p. 74) conclude:

The relations of production in informal industry are neither purely those of the independent producer (characterised by producers control over the labour process and ownership of capital) nor only those of the industrial capitalist (characterised by a proletarian workforce and a real subsumption of labour to capital). Rather a spectrum of putting-out relations based on formal subsumption of labour and a reliance on extraction of absolute rather than relative surplus value is observed. In addition to putting-out arrangements, nominally self-employed or independent producers are often locked into a relation of dependency vis-a-vis merchant and finance capital.

In the next section I develop a framework for understanding informal knowledge production and knowledge flows, that makes use of what we know of the organization of artisanal industry.

### **3.2.2 Artisanal Knowledge**

If we take a knowledge perspective on the organization of artisanal industry, three principal areas of interest emerge. These are, the artisanal labor process, knowledge flows in a cluster of artisanal firms, and apprenticeship processes. Here I review the significance of each of these. While the links between industrial organization and knowledge production are usually unexplored in informal industry, two exceptions are Biswas and Raj (1996) and Biswas (2007), studies that bear directly on the question of how organization of artisanal clusters shapes knowledge acquisition and

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studies the organization of three industrial clusters, viz. Kanpur Leather, Moradabad Brassware and Banaras Textiles.

flows. Biswas (2007) broaches several themes of relevance to the present study in the following passage:

Traditional knowledge and the innovations made by the producers/traders are usually not patentable ... In order to maintain an edge in the market the producer needs to modify designs or products frequently. Innovation, although ultimately made by the producers, may be viewed as the joint activity of the producers and traders, since the latter often brings new ideas in terms of feedback from their market interactions with the users, arranges raw materials, finances installation of new equipment and markets the new products. Again, the master craftsmen have the responsibility to propagate the knowledge and innovations among community members through apprentice system.

While the authors mostly foreshadows the importance of these factors, we will have occasion to explore all these issues in greater depth.

### **3.2.2.1 Artisanal Labor Process**

The majority of India's workforce still works in homes, workshops, and farms with less than ten co-workers and with shallow managerial hierarchies. This is not to say that such workplaces are a workers' paradise. Indeed the title of this chapter takes an expression from a weaver in Banaras who describes the freedom of his self-directed labor process as "freedom that doesn't fill the stomach." This trade-off between freedom and the stomach will be explored in Section 2.5. The tyranny of low piece rates and unpaid family labor contributes to a high rate of exploitation in Banaras as elsewhere. Capital has combined control over finance, markets and design with dispersed small-shop production, in a kind of neo-Taylorism made even more efficient

by the information and communications revolution. Sahasrabudhey (2008, p. 8) notes with respect to artisans in the new context that:

Their knowledge and skill is once again being recognized. Only this knowledge is their own, everything else, that is capital/finance, market and raw materials, is controlled by others.

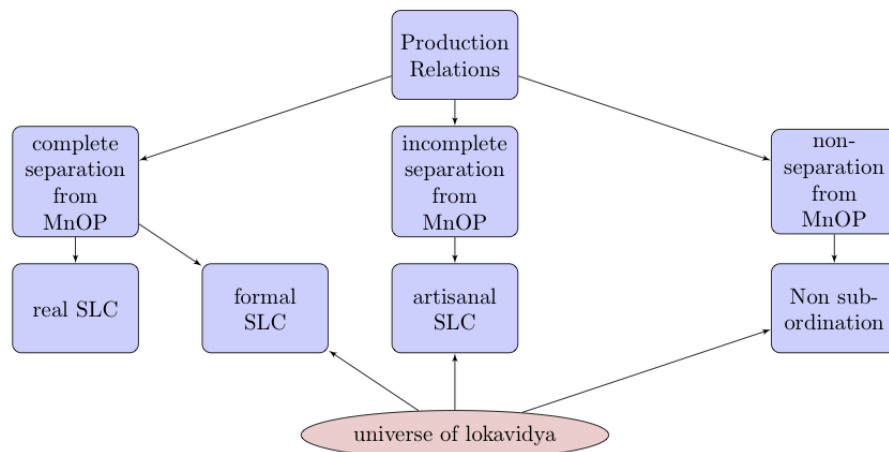
The artisan's labor-process is self-directed even when it has been extensively reorganized by capital to its own ends, unlike a worker's labor-process which to a much larger extent is other-directed, via use of machinery (technical control) or managerial hierarchy (bureaucratic control) or both. As we shall see later, the artisan laments the lack of ability to do anything else when his knowledge is no longer valued in the market but yet retains a pride in this knowledge.

Thus where complete separation of the direct producers from the means of production has not occurred (for a variety of reasons including insufficient rate of capital accumulation and late industrialization), the labor process is often self-directed. What are the implications of this for knowledge that the working class possesses? Could it be that lokavidya survives and thrives because of shallow production hierarchies, i.e. little separation between conception and execution, and because of the self-directed nature of work that often characterizes small-scale and artisanal production, whereas deep hierarchies in large-scale industry have traditionally led to a separation of conception/design from execution/ production, destroying the producer's lokavidya in the process, reducing the artisan to a laborer and further exacerbating the traditional hierarchy between mental and manual labor?

Figure 3.1 uses Marx's framework of forms of subordination of labor to capital to identify locations of lokavidya. The degree of separation from the means of production shapes the labor process. The "usual" capitalist labor process is thought to be dominated by what Marx labelled the "real mode of subordination of labor to capital" (real SLC). Here workers do not control the process or the product of labor

and the labor process has been reorganized in an effort to increase labor productivity and to create a place for managers who alone possess the knowledge required to organize production. The formal mode (formal SLC) also requires a separation of the worker from the means of production but in contrast to real SLC, the labor process is left largely unchanged by capital. Increases in productivity are obtained by direct supervision of work, not by introducing technical division of labor. At the other extreme, non-separation from the means of production implies a labor process that is not subordinated to capital. Between the two extremes there exists a continuum of dispossession or separation from the means of production which characterizes the majority of the working class in contemporary artisanal production in the informal sector. Marx identifies this continuum as constituted of “transitional forms” in which “the capital-relation does not yet exist formally, i.e. under which labour is already exploited by capital before the latter has developed into the form of productive capital and labour itself has taken on the form of wage labour.” These so-called transitional forms show the tendency to “constantly reproduce themselves within [capitalism] and are in part reproduced by the latter itself.” (Marx, 1861)

**Figure 3.1.** Forms of subordination of labor to capital



Here a third distinct mode of subordination of the labor process may be hypothesized to exist (center column in Figure 3.1). This type of labor process shows characteristics of both extremes. On the one hand, producers are still expected to perform many managerial functions and work in a largely self-directed labor process. On the other hand they are subordinated to larger industrial, finance, or merchant capital because they are dependent upon the latter for working capital, finance, access to the market or for key knowledge inputs (such as design) which is supplied via a putting-out relation. Here we see “capital’s mode of exploitation without its mode of production” to use Marx’s words. This “artisanal mode of subordination of labor to capital” (artisanal SLC) though common has not received the attention it deserves perhaps because it has been seen as a disappearing form. In some recent unpublished work Skillman has used the term “merchant SLC,” to refer to this phenomenon. I prefer the term “artisanal SLC” firstly because not only merchant but also industrial or finance capital may be involved, and secondly, to put the focus on the nature of the labor process rather than the identity of capital in question. The “artisanal mode” also describes the labor process of peasants and small farmers. Later in this paper we will see more evidence for the operation of this mode and what characterizes it. As a caveat it should be mentioned that the distinction between the formal and the artisanal modes is one of degree rather than of kind since the two are largely similar as far as artisanal knowledge is concerned and differ mainly in degrees of dispossession from the means of production. By positing the existence of such a mode of subordination of labor, I aim to draw attention to precisely these degrees.

### **3.2.2.2 Artisanal Clusters**

A striking feature of artisanal industries in India is clustering of a large number of artisans in one geographical area, usually a town or city neighborhood. The dy-



namics of industrial clusters have received much attention, specially starting with the pioneering work of Piore, Sabel and Zeitlin which attempts to explain why the craft alternative to mass production endures to this day (Sabel and Zeitlin, 1985). Although initially limited to European and American (and to some extent Japanese) clusters, the literature has grown to include clusters in developing countries and some of the same principles identified in the developed countries context, such as specialization in high-value added, fashion-sensitive products, and ability to adapt quickly to market trends have been identified for informal economies as well. Schmitz and Nadvi (1999) introducing a special issue of *World Development* on “Clustering and Industrialization” mention the following lessons learned from applying Piore and Sabel’s framework to development countries: clusters are common in a wide range of countries and industries, the growth experiences of these clusters vary widely, and they display considerable internal differentiations, i.e. a few medium or large firms dominate and play an important role in the governance of the cluster. Saith (2001) in examining the prospects of rural industrialization in India, also reviews the substantial literature on industrial clusters in India. He notes that despite the recent spurt in interest such concentrations of industry have been commonplace in India for a long time. One reason for increased interest in the neoliberal period could be that such indigenous (as opposed to “seeded”) clusters are seen as desirable outcomes of a market-led process, on selective promotion of which an industrial growth agenda could be based. The terminology of “clusters” has been adopted in Indian small industry policy and we saw one example of this in the previous section, the Integrated Handloom Cluster Development Scheme.

It is well understood that artisanal clusters, which are a type of an “industrial district” can benefit from economies of localization (so-called “Marshallian externalities” after Alfred Marshall who wrote about them and also first coined the term industrial district). That is, localized industries support a large number of specialized suppliers

of intermediate inputs, create and sustain large numbers of skilled workers, and lastly benefit from quick flows of knowledge due to social and community bonds. The last point is often referred to as a “knowledge spillover” identified by Romer (1990) as an indirect effect of innovation. That is, after firms or individuals attempt to earn monopoly rents for an innovation, in dense clusters such an innovation quickly adds to the current stock of knowledge which is then available to all the other firms without any compensation paid to the innovator. The literature on knowledge spillovers is heavily biased toward the developed country context and in particular focuses on “high-tech” or R and D sectors. Much less work is available on what role spillovers may play and by what mechanism they may occur in the informal sector in developing economies. But the general absence of legal mechanisms via which knowledge-holders may exclude others from gaining access to knowledge and the relatively greater importance of knowledge embodied in the worker, as compared to disembodied, formalized knowledge, leads us to believe that such spillovers may play an important role in explaining dynamism as well as deficiencies of artisanal clusters. A typical spillover scenario and its effects are described by Colloredo-Mansfeld and Antrosio (2009, p. 144-145) for the acrylic sweater industry in Otavalo in the Ecuadorian Andes:

Designing goods in Otavalo has always been nonexclusive, a sort of joint venture that results from an unending sequence of mutual robbery. As one acrylic sweater producer reported in 2001 “Everyone copies. We are not egotistical. It is a free market.”

The authors go on to describe how “Powwow regalia” designs (certain Native American motifs such as eagles and war bonnets which are not part of Andean culture) which were started by a few sweater firms became generalized in 2-3 years such that they became “part of the palette of indigenous Andean identity.”<sup>4</sup> Later in this chap-

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<sup>4</sup>Steiner (1999) has noted the importance of imitation in African tourist art markets.

ter I examine the design work (production of sari patterns) in the Banaras weaving cluster from this perspective.

### **3.2.2.3 Apprenticeship and Training**

Like knowledge-spillovers in informal networks, apprenticeship and training systems are also widely known to exist in artisanal clusters and to be indispensable in their functioning. Further, as I will show in Section 2.5, such systems serve many times more people than formal education systems as far as employable skills are concerned. But they have mostly been neglected in the literature. There is a good reason for this neglect. Such systems are often invisible because they are part of ordinary life. There is not necessarily an identifiable place, temporal or physical, where learning happens. No schools, exams or notebooks. Further, artisans themselves often see nothing worth commenting in the learning process. In his book on the weavers of Oaxaca, Mexico, in a chapter titled “We Learn to Weave by Weaving” Wood (2008) introduces the topic of learning in a language very reminiscent of my experience in Banaras:

In Teotitlan, there is no mystery about how one becomes a weaver, and the topic receives little discussion or attention among the weavers. Most of those with whom I broached the topic of how one learns to weave (or teaches someone else) had a hard time understanding what there was to discuss (p. 139)

For all these reasons, economists studying industrial clusters have mostly focused on industrial organization, value-chains and linkages between firms leaving skill acquisition unexplored. Biswas and Raj (1996) is a rare study which focuses explicitly on “skill formation in indigenous institutions” and analyzes knowledge content of and skill acquisition in handloom and conch-shell product industries of West Bengal as

well as in radio, bicycle, watch and auto repair industries in Delhi. The authors report some basic statistics on years of apprenticeship (1 to 10 years depending on trade), number of apprentices trained per craftsman, and sources of knowledge on new products. Such work should produce a large progeny of studies but regrettably has not. Coming from a different intellectual tradition, Wilkinson-Weber (1999) offers important insights into skill acquisition among Lucknow chikan embroiderers, employing participant observer techniques (she learns to embroider herself) while Venkatesan (2009) does the same for mat weavers of Pattamadai (Tamil Nadu). Most of our knowledge on contemporary apprenticeship systems comes from anthropological studies of this nature.

An important exception to the general neglect of knowledge in writings on the informal sector is Breman (1996) who dedicates a chapter to the “Quality of the labor process.” Although Breman’s primary interest is in the lowest end of the labor market occupied by landless laborers, where non-specialization is often the key to survival, he includes remarks on systems of apprenticeship in the diamond cutting and powerloom industries of Surat. His main point is that even informal sector apprenticeships can cost more than landless laborers can afford (Rs. 500-700 for diamond cutting in 1986-87). But almost as an aside he offers the observation that in Surat powerloom workshops experienced workers teach apprentices surreptitiously, without the owner’s knowledge. They take on this risk (of apprentices producing defective pieces for example) in part out of social obligation, and in part for financial gain (once the apprentice learns in a few weeks, for some variable amount of time his products are his teacher’s).

The literature on traditional knowledge also recognizes the importance of institutionalized settings where knowledge may be passed on from one generation to the next, but largely fails to address the question in any detail. Ruddle (1993), in a rare

study, provides extensive documentation of training regimes in traditional ecological knowledge lamenting that,

Although knowledge is the foundation of social life, the sociology of knowledge, and particularly its transmission between or among generations, remains a neglected field. This is extraordinary in view of the fundamental socio-cultural importance of the process ...most ethnographers, if they discuss childhood at all, have little to say about how traditional knowledge of specific skills is transmitted. The impression conveyed is that skills are transmitted and acquired in a disorganized, unstructured and highly individualistic manner ( p. 17).

Artisanal knowledge thus has often fallen between two stools, as it were. Those who are interested in knowledge are often not concerned with work and those who study work do not always worry about knowledge.

### **3.3 Data and Methods**

#### **3.3.1 National Sample Survey**

The most recent available unit-level data on the “unorganized manufacturing sector” (62nd Round, 2005-2006) from the National Sample Survey Organization (NSSO) was used to analyze the organization of the decentralized weaving sector. This is a stratified, multi-stage random sample survey covering 82897 enterprises all across the country (Government of India, 2008b). Handloom and powerloom enterprises were selected on the basis of National Industrial Classification (NIC) 2004 codes. The following codes were used:

17115-18 - Weaving, manufacture of wool and wool mixture fabrics, man-made fiber and man-made mixture fabrics, cotton and cotton mixture fabrics, silk and silk mixture fabrics on powerlooms.

17132-37 (except 17134) Weaving of cotton khadi, cotton textiles on handlooms,

woollen and silk khadi, wool and silk on handlooms, artificial/synthetic textile fabrics on handlooms.

Analysis was further restricted to those firms which reported having a total of ten workers (paid and unpaid) or less to conform the Sengupta Commission's definition of the informal sector. All income and asset values are reported as nominal (2005) rupee values. The nominal Rs-dollar exchange rate in 2005 was Rs. 44.10 = \$1 while the rate adjusted for purchasing power parity was Rs. 14.67 = 1\$ (World Bank, 2008, p. 24). Population shares of various types of firms are reported after applying frequency weights.

### **3.3.2 Banaras Weaving Survey and Interviews**

Surveys were conducted according to a purposive quota sampling method in which no effort was made to be random (since comprehensive lists are not available). Instead an effort was made to capture all the major types of weavers and weaver localities. Survey participants were approached via five independent contacts to ensure sample diversity. One of these was himself an Ansari weaver, one was the NGO Human Welfare Association which works with rural Hindu weavers, a third contact was an ex-weaver from the Lohata area, and three were employees of the organization Vidya Ashram who had developed contacts among weavers due to their personal historical backgrounds. Later more participants were recruited via snowball sampling. In all 104 weavers in the cities of Banaras, Maunath Bhanjan (Mau for short) and Mubarakpur as well as rural areas surrounding Banaras were surveyed of which 99 surveys were usable. The sample consists of 95 men and 4 women. Women traditionally do not weave in this area but are only involved in preparatory yarn-work (reeling the weft on bobbins and related tasks). The exception to this rule is the town of Mau where women operate light powerlooms. The women in the sample are all from Mau. Of the usable sample, 74 weavers were urban and 25 were rural; 65 handloom, 27 powerloom

weavers and 7 operating both types of loom are included; 71 are job-workers, 21 own-workers and 5 undertaking both; and 74 own their own looms while 25 are loomless. Survey sessions lasted around 15-20 minutes. Surveys were conducted in the following areas: several mohallas of Alaiपुरा (e.g. Chhitanपुरा, Alampur, Pathani Tola, Azad Park, etc), Madanपुरा, Lallapur, Bazardiha, Saraiyan, Kuniya, Jalalipur, Sarai Mohana, two villages near Lohata (Bhartra, Ghamahapur), villages of Cholapur and Chiragaon blocks, neighboring towns on Padav and Dulahipur, Maunath Bhanjan (a district town 100 km north of Banaras) and Mubarakpur (a small town 120 km away in Azamgarh District). The survey questionnaires are provided in the appendix.

A subset of the surveyed weavers were approached for interviews. Interview sessions varied in length from 30 minutes to an hour and in a few cases longer. Interviews were semi-structured with open-ended questions. It was not always possible to ask questions in a standard sequence but it was ensured that the main topics of interest were covered during the course of the conversation. Interview questions focused on the following topics: wages for labor versus wages for skill, types and measures of artisanship, relationship between the weaver and the master-weaver, government policy and schemes, and their impact, methods of apprenticeship and impact of government child labor legislation on them, authenticity and imitation in the Banarasi Sari, competition from powerlooms and computerized embroidery machines, and causes of decline in the industry and prospects for improvement. The subset interviewed comprised 13 own-workers, 47 job-workers and 7 loomless weavers. In addition to weavers, interviews with the following other types of respondents also contribute to the dataset used in this chapter:

- Eight designers: These are the artists who create patterns found on the saris/fabric
- Seven non-weaver artisans: card-makers (who punch the card used in the Jacquard mechanism), *zari* makers, post-weaving workers (dyers, starchers, packers).

- Eleven master-weavers (*girhastas*) who put out work to weavers or who employ loomless weavers on their looms and sell to wholesale merchants. Two of these are also designers.
- Three merchants (*gaddidars*) who buy and sell saris wholesale
- One agent who matches out of town merchants with local ones for a commission.

Finally, as mentioned in the introductory chapter, two informants, Javed Bhai, a handloom weaver and Mohammad Salim, a powerloom weaver, consented to repeated interviews and conversations over the course of nine months of field-work. Their insights and contributions are crucial to this work.

## 3.4 Production Relations

### 3.4.1 Analysis of National Sample Survey Data

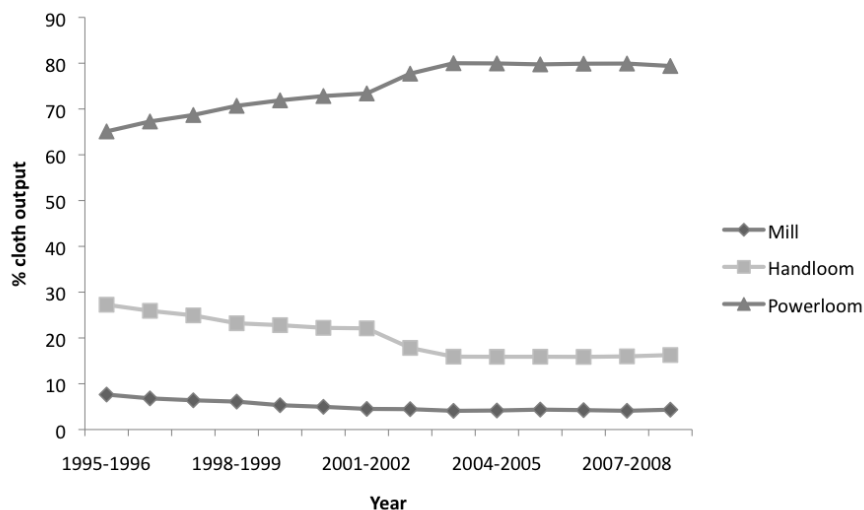
#### 3.4.1.1 An Overview of Weaving

The Indian weaving industry consists of three major sectors, a mill (factory) sector which currently accounts for around 4.3% of output, a handloom sector, largest in terms of employment but declining in share of output (now around 16%) and a powerloom sector accounting for nearly 80% of output (Figure 3.2). By “mill” is meant large-scale composite spinning and weaving textile mills. By “powerloom” is meant small-scale weaving workshops, the majority operating with less than ten workers, often (though not exclusively) with second-hand or scrap looms obtained from the mills, also obtaining yarn from mills and sending fabric out for post-processing. Over the post-Independence period, in part as a result of State policy, mills have increasingly restricted themselves to spinning activities which supply yarn to the handlooms and powerlooms (93% of working handlooms use mill-spin yarn according to Shukla (2011)). The share of handlooms in output declined nearly ten percentage points (27% to 16%) in the period 1995-2008, while the mill share declined from 7.6% to



4.3%. The powerloom sector has clearly gained at the expense of both the mill and the handloom sectors during this period, as well as over the course of the 20th Century.

**Figure 3.2.** Share of mill, handloom and powerloom sectors in cloth production: 1995-96 to 2008-09.



Source: Office of the Textile Commissioner, Mumbai.  
Hosiery sector has been omitted

Reliable employment time-series data on the three sectors are harder to find than output data but point estimates are available. The Ministry of Textiles, based on statistics reported by the Office of the Textile Commissioner reports that there are an estimated 2.2 million powerlooms spread over approximately 500,000 units, giving an average size of 4.4 looms per unit (Government of India, 2010). If we combine that with an estimate of 1.27 average workers per loom, produced by the second Joint Census of Handlooms and Powerlooms (JCHP, 2004) this would give an employment estimate of 2.8 million workers. The figure of 500,000 units for 2009 is broadly consistent with my estimate of 424,407 powerloom firms in the country based on NSS data, but the total employment in this sector seems to be underestimated in the NSS data to around 1.6 million. It is possible that the capital-labor ratio in this sector has increased since the time of the powerloom census (1995), but it is also possible that

the NSS has underestimated this informal workforce or that there has been a decline in part-time workers relative to full-time workers in this industry.

Despite the rise of powerlooms, the handloom sector continues to be important from the employment perspective and is often described as second in importance only to agriculture. Certainly like agriculture it consists of a large labor-force accounting for a small fraction of output, suggesting extremely low wages and living standards. Estimates of the number of handloom weavers also vary between sources, shaped to an extent by the definition adopted. In addition to those who are fully or principally dependent on weaving for a livelihood many farmers also undertake weaving as a part time occupation, producing either for personal consumption or for the market. JCHP (2004) counted 1.65 million full-time handloom weavers which in the most recent handloom census (Shukla, 2011) has increased to 1.8 million.<sup>5</sup> Combining the handloom and powerloom estimates we obtain a figure of 4 million workers in the decentralized weaving sector as a whole. Another source of data on the number of weavers is the NSS Employment-Unemployment Survey (Government of India, 2006) according to which there were an estimated 5,202,198 handloom and powerloom weavers in India. This survey did not distinguish between handloom and powerloom weavers but the combined estimate is broadly consistent with the estimates offered above.

A fuller discussion of the rise of powerlooms and the question of competition with the handloom sector is taken up in Chapter Four where I discuss the impact of powerlooms on the Banarasi Sari industry. But it is worth pointing out some similarities

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<sup>5</sup>This includes only weavers not persons undertaking allied activities such as dyeing, finishing etc. The qualifying criterion for being counted as “handloom weaver household” changed between the 1995 census and the 2010 census from “the operation of a loom for at least seven days during the past one year, by any member of the household” to household which had “undertaken weaving or allied handloom activity even for one day in the year preceding the date of survey.” (Shukla, 2011, p.2) But since the definition of full-time weaver as someone engaged exclusively in weaving activity remained constant, this figure should be comparable across the two censuses.

between the two sectors, which may even explain the success of the powerloom sector. First, the average powerloom firm is not much larger than the average handloom firm in terms of employment and the two sectors share basic organizational features because several centers of powerloom manufacture (such as Bhiwandi, Malegaon, and Surat) were centers of handloom production before they switched to powerlooms and are thus of artisanal origin (Haynes, 2001). Of course there has been divergence in important ways also and the reliance of family labor, artisanal (as opposed to trader) capital and bonds of ethnicity in hiring labor have weakened over time. Second, Roy (1998) points out that even after the switch from handloom to powerloom had been made in these powerloom centers

the continuity of informal training of master-apprenticeship kind, ensure a bond of skill with ethnicity. Thus, Bhiwandi weavers come from UP or Andhra Pradesh, thread-joiners from Benares, boilermen and their assistants in process- shops from Bengal, etc. (p. 901)

Thus from the point of view of workplace hierarchy, knowledge creation and transfer, and the mode of subordination of labor to capital, the two sectors are indeed similar. It seems that the powerloom sector has succeeded by combining the best of the mechanized sector (productivity) and the handloom sector (established systems of apprenticeship as well as business networks). The flip side is that this sector also combines the worst of both sectors: loss of craftsmanship and routinization associated with mills, and insecurity of informal employment associated with traditional weaving. The weavers themselves have been willing participants in this transfer of technology from the capitalist to the artisanal sector.

#### **3.4.1.2 Firm Size**

Even though it appears that the National Sample Survey of the unorganized manufacturing sector underestimates the number of workers engaged in the hand and

powerloom industries, the NSS nevertheless provides a rich (and the only) national-level database for the study of production relations in the informal sector.<sup>6</sup> We now construct a picture of production relations in the decentralized weaving sector based on the most recent survey of the informal manufacturing sector (Government of India, 2008b). Table 3.1 gives the actual sample of firms included in the NSS survey as well as the estimated number of firms at the national level obtained after applying the appropriate weights.<sup>7</sup>

**Table 3.1.** Basic characteristics of the handloom and powerloom sectors.

Characteristic	Handloom	Powerloom
Workers per unit	2.4	3.8
Estimated number of units	362554	424440
Estimated number of workers	875208	1627118
Sample size	1166	1553

Source: Author's calculations based on Government of India (2008b)

The small size of handloom firms (2.4 workers per unit) is expected for an industry that is known to be largely family based and it also agrees with the figure of 2.6 workers per unit obtained from JCHP (2004). What is striking is that the average powerloom firm is not much bigger, having only 3.8 workers. This suggests that apart from a small number of large powerloom workshops with over 50 looms in towns such as Surat, the majority of powerloom workshops in the country are very small in size. Figure 3.3 shows the complete distribution of firms according to the number of workers in both industries. We see that firms with two workers are the most common. As we

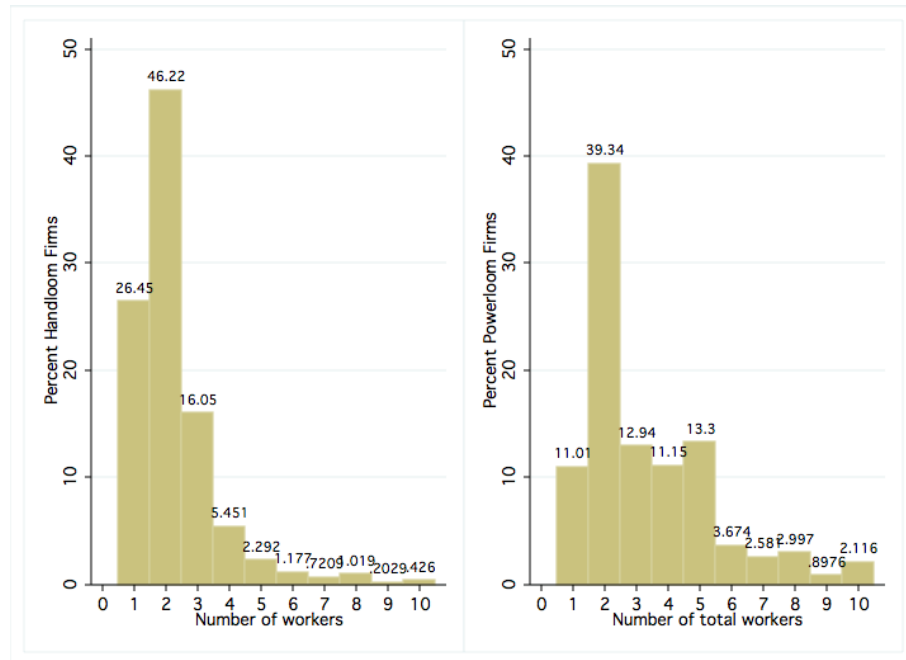
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<sup>6</sup>Possible reasons for underestimation are as follows. I do not count jute workers, but only limit myself to weavers of cotton, silk, wool and synthetic yarn. Further, according to the recent handloom census a very large proportion of weaver households are found in the North-Eastern states (60.5%) where the NSSO survey which targets all informal manufacturing, not just weaving, is likely to under-sample. Finally, NSS is also known to underestimate employment as well as number of firms due to the extremely small-scale of much of this economic activity (Das, 2003).

<sup>7</sup>The 62nd round NSS survey, for the first time, included 8000 large informal enterprises not covered by the Annual Survey of Industries. However, in the case of weaving these amounted to less than 0.0001% of estimated firms and workers and have been excluded from further analysis.

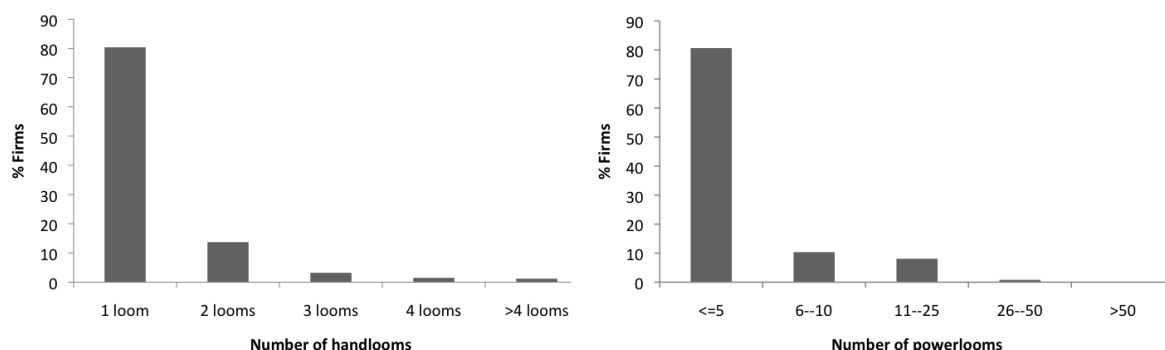
will see later this typically means one working owner and one unpaid family worker or hired worker. These numbers are again supported by data on the number of looms per unit from JCHP (2004) which despite its datedness still offers the most direct picture of the decentralized nature of both handloom and powerloom sectors since the NSS does not collect data directly on loomage and the disaggregated data from the most recent census of looms is not yet available (in any case it did not include powerlooms). Figure 3.4 shows that the vast majority (80%) of handloom households in 1995 owned only one loom. Powerloom units tend to be somewhat larger, but not by much, the vast majority owning 5 looms or less. On the basis of the aggregate figures of the latest loom census, the average number of handlooms per household still appears to be one (Shukla, 2011).

**Figure 3.3.** Distribution of total workers per firm in the Handloom (left) and Powerloom (right) industries.



Source: Author's calculations based on Government of India (2008b)

**Figure 3.4.** Distribution of firms by number of looms owned in the handloom and powerloom sectors.



Source: JCHP (2004)

### 3.4.1.3 Predominance of Familial Relations

Moving beyond firm size, in order to understand how production is organized in this sector we need information on employment relations within the firm. How prevalent is wage-labor? Are handloom firms more dependent on family labor as compared to powerloom firms? The NSS collects data on number of paid and unpaid workers in an enterprise. Based on this I classify firms into three types of employment relations: petty proprietorships which have one working owner and no paid or unpaid workers<sup>8</sup>, family firms which employ only unpaid workers, and capitalist firms which employ at least one wage worker. It should be emphasized that there can be movement across these categories. Family firms may hire wage labor if needed, just as petty-proprietorships may acquire unpaid family workers, and so on.

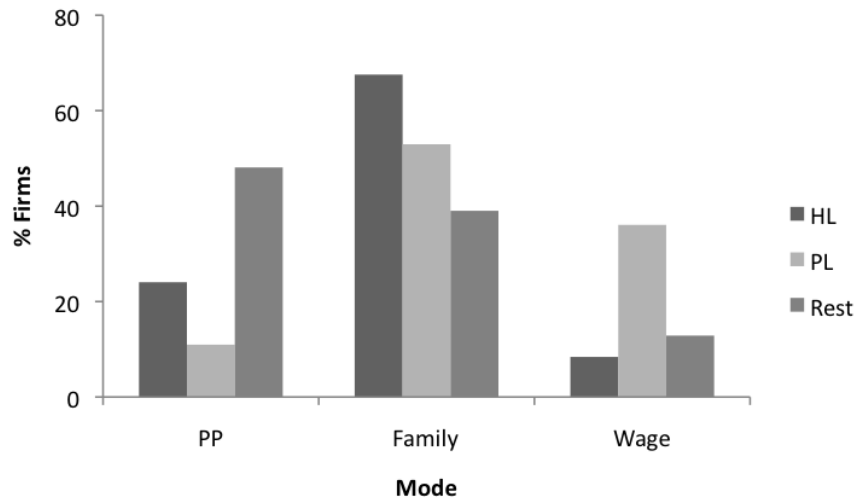
Figure 3.5 shows the relative proportions of the three types of firms in handlooms, powerlooms and rest of the informal manufacturing sector. A large majority (91%) of handloom firms employed no hired workers. This is to be expected since 90% of firms

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<sup>8</sup>The terms petty proprietorship is often used to describe all firms which employ only family labor and no wage labor. My usage of the term differs from this, because I am distinguishing between firms which employ no workers at all (whether paid or unpaid) and firms which employ only unpaid workers.

according to Census (1995) had 2 looms or less. But it may come as a surprise that the majority of the powerloom firms (64%) also reported not employing any wage labor. Family firms were the dominant type in both sectors, though it can be clearly seen in Figure 3.5 that compared to the rest of the informal manufacturing sector, powerloom firms tend to employ more wage-workers. One possibility is that the extent of wage-labor is being under-reported in this sector to avoid labor legislation or other obligations arising from formal status.

**Figure 3.5.** Predominance of Family Firms in Weaving.



Source: Author's calculations based on Government of India (2008b)

Table 3.2 summarizes the key differences between the three firm types for the entire decentralized weaving sector (i.e. hand and powerlooms) taken together. Note that family firms account for half (51.17%) of total workers. Taken together with PP firms we conclude that the majority of the weaving workforce is not proletarianized in the sense of working in a direct capital-wage labor relation. Capitalist firms account for around 43% of workers, which is consistent with the NSS Employment-Unemployment Survey which finds 59% weavers to be self-employed and 40% to be working for wages. However, as is well-known “self-employment” in the informal sector typically hides a

significant proportion of piece-work labor undertaken on contract for larger merchant or industrial capitalist firms. I address this issue in the next section. We also see from Table 3.2 that a typical family firm has one working owner and one family worker and a typical capitalist firm has one working owner, one family worker and three wage workers. These estimates are in agreement with some very recent loomage data from sample surveys carried out by the National Council for Applied Economic Research (NCAER) which shows that own-account firms (i.e. PP and family firms in our classification) have one loom per unit while capitalist firms have around five looms per unit (Bedi and Verma, 2011).

As would be suggested by the predominance of family labor, the home remains the workplace for the majority of handloom and powerloom weaving firms. The workshop equals the home as a site of production only in case of larger capitalist firms (employing more than five wage workers). Thus it is clear that the home is a critical institution for production in weaving both from the point of view of workers (unpaid family members) as well as space. Further the contribution of the home is likely to extend beyond physical space to include other assets which are both domestic and commercial such as bicycles, motorcycles, etc.

**Table 3.2.** Weaving firm types and their characteristics.

Characteristic	PP	Family	Capitalist
Share of firms	17.1	59.8	23.1
Share of workers	6.04	51.17	42.79
Workers per firm (incl. owner)	1	2.42	5.24
Wage workers per firm	0	0	3.15
Family Workers per firm	0	1.27	1
Percent firms at home	93.46	96.28	58.26
Percent firm owned by women	83.05	12.84	5.29
Percent rural firms	78.2	65.36	44.87

Source: Author's calculations based on Government of India (2008b)



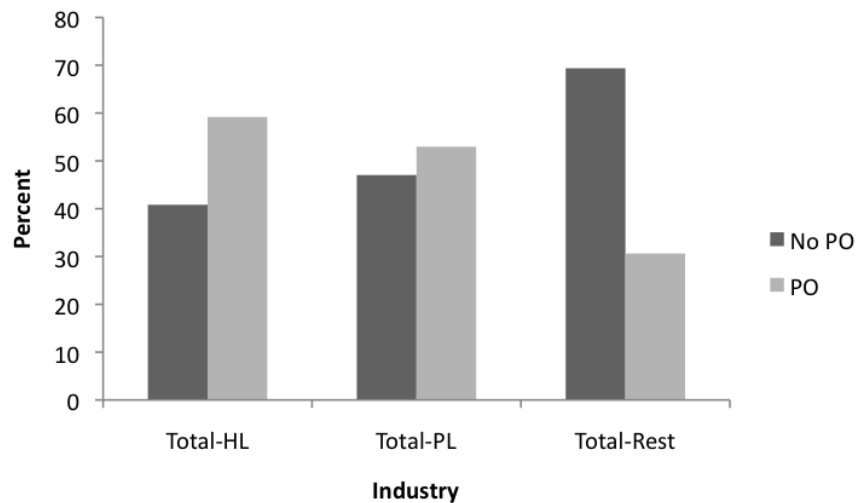
As expected women are severely underrepresented among owners of family as well as capitalist firms and are predominantly found in one-person (PP) firms. A further exploration of the gender dimensions of production relations in the informal sector is undertaken in Chapter Six.

#### **3.4.1.4 The Nature of Putting-Out**

It is well-known that the high proportion of self-employment and home-based production in the informal sector is compatible with national and transnational capitalism, largely via putting-out systems (for some examples see Basole and Basu (2011); de Neve (2005b); Knorringa (1999); Mies (1982); Varman and Chakrabarti (2006)). The phenomenon of small units undertaking work on contract for larger master units either directly or via middlemen is widespread in the informal manufacturing sector, but the weaving sector shows a particularly well-developed and extensive putting-out system since the powerloom sector's *raison d'être* has been undertaking production, directly or indirectly, for the mills. The NSS collects data on whether firms have undertaken any work "on contract" during the survey reference period. Figure 3.6 shows that while only 30% of units undertook some work on contract in the non-weaving parts of the informal sector, the majority of handloom units undertook at least some work on contract and just over half of the powerloom units did the same. Tables 3.3 and 3.4 show that the nature of the putting-out contracts corresponds closely to the classical putting-out mode of production in which a merchant or master either directly or via some intermediaries advances raw materials (working capital) to the worker who usually possess the fixed means of production and undertakes work for a piece-wage. The majority of firms supply their own fixed capital ("equipment") (as well as the wage or consumption fund over the period of contract) but not their own working capital ("raw materials"). While Government of India (2008b) does not have data on type of wages paid, the NSS Employment Survey (Government of India, 2006)

tells us that piece rate payments dominate in weaving (58.6%) followed by non-piece rate cash payments (35.3%). The tables also show that an overwhelming majority of firms which undertake work on a putting out basis do so almost exclusively, i.e. they are then unlikely to also sell their own product directly in the market.

**Figure 3.6.** Percentage of all firms in Handloom, Powerloom and rest of the informal manufacturing sector who undertake work on putting-out basis.



Source: Author's calculations based on Government of India (2008b)

Does the degree of dependency depend on the employment mode? Indeed Table 3.3 shows that almost half of PP firms in the handloom sector obtain even their equipment from the master-unit while only 13.5% of family firms and 7% of capitalist firms do so.<sup>9</sup> These workers constitute a large but invisible stratum of wage-workers who are “doubly free” proletarians in every sense except that they are subordinated to capital not in the formal but in the artisanal mode, because they perform a self-directed labor process in their own premises.

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<sup>9</sup>There is also a gender dimension to this. Women-owned handloom enterprises, which constitute 32% of all handloom firms, are far more likely to occupy such a position, where 55% women weave at home on the master's loom as opposed to only 11.6% men who do so (data not shown, see Chapter Six).

**Table 3.3.** Weaving firm types and sub-contracting in Handlooms.

Characteristic	All Firms	PP	Family	Capitalist
% PO	59.18	52.58	62.12	54.5
% Only PO	87.46	94.08	86.29	79.98
% Equipment	20.61	49.27	13.49	7.02
% Raw Mat	94.92	98.14	94.17	92.97

Source: Author's calculations based on Government of India (2008b)

**Table 3.4.** Weaving firm types and sub-contracting in Powerlooms.

Characteristic	All Firms	PP	Family	Capitalist
% PO	52.99	40.28	48.44	63.53
% Only PO	89.24	89.44	90.16	88.17
% Equipment	5.41	13.36	6.9	2.2
% Raw Mat	93.49	79.14	94.51	95.1

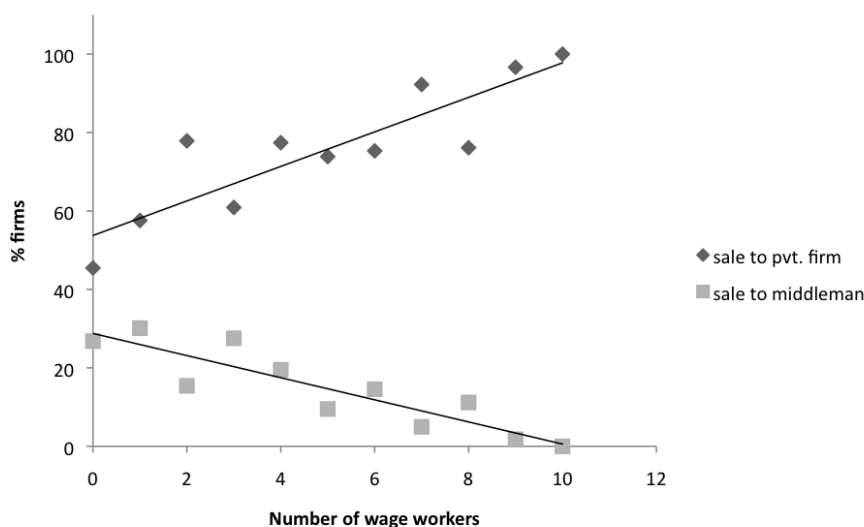
Source: Author's calculations based on Government of India (2008b)

The powerloom sector shows a counter-intuitive trend. We find that capitalist powerloom firms report undertaking work on contract to a much greater extent (63.5%) than PP (40.3%) or family (48.4%) firms. This is unexpected since the degree of dependency might be expected to decrease with increasing firm size. One possibility is that larger powerloom workshops are better placed to secure contract work for mill brands while smaller workshops have to mix contract work with selling in the open market (mostly via middlemen). One way this can happen is if larger powerloom workshops are owned by mill owners who sub-contract their production to gain from the competitive advantage that arises from lower transaction and enforcement costs.

NSS data on destination of sales do show that reliance on a middleman to sell output correlates with firm size as well as employment relations. Family firms are more likely to sell to a middleman as compared to capitalist firms. Within capitalist firms, the importance of the middleman decreases with increasing number of wage workers. Figure 3.7 shows that as firm size, in terms of number of wage workers,

increases the proportion selling their product via middlemen decreases and the that selling directly to other private firms increases. Presumably this reflects the fact that large firms are able to produce sufficient output to be able to negotiate contracts directly with larger master-units. Or conversely it points to the fact that smaller firms are unable to market their own product and may suffer as a result.

**Figure 3.7.** Primary destination of sale correlates with firm size.



Source: Author's calculations based on Government of India (2008b)

The foregoing makes it clear that NSS data offer several insights into the organization of production in the decentralized weaving sector at the national level. The results discussed so far set the stage for a more in-depth exploration into a particular weaving cluster, the Banaras Sari Industry, to which I turn next.

### 3.4.2 The Banaras Sari Industry

#### 3.4.2.1 Organization of the Industry and Employment Relations

A brief overview of this industry was given in the introductory chapter. Three recent policy-oriented studies discuss its organization (Ahmad, 2007; DCHandlooms, 2008; Varman and Chakrabarti, 2006). Figure 3.8 is a schematic depiction constructed

from these accounts as well from my own surveys and interviews. It applies to both hand and powerloom sectors, and identifies the main actors in the value chain and their relationship with each other. Women, who are at the bottom of the value chain, perform unpaid labor largely in the form of preparatory yarn work (reeling weft yarn, sizing of warp). Women weavers are rare in this region of the country, the exception being the town of Mau, where women used to weave on fly-shuttle pit looms and now operate light powerlooms. There are three types of weavers: loomless weavers who weave in the employer's home or workshop, job-workers who work in their own home for a master-weaver (or more rarely directly for a merchant) and typically own their looms outright or have bought them on loan from a master, and own-workers who own their looms and produce for direct sale on the wholesale market in Banaras. Both job-workers and own-workers may also employ a small number of loomless weavers as needed. Master-weavers, called *girhast* (lit. householder) in local parlance are own-workers with enough capital to produce in-house, as well as put work out to a variable number of job-work weavers. Own-workers as well as master weavers sell finished products to merchants or traders in the wholesale market which is located in the city center.

According to a diagnostic study of the Banaras handloom cluster (DCHandlooms, 2008) nearly 90% of total production is sold in the city itself. The traders are called *gaddidar* or *kothidar* in local parlance.<sup>10</sup> They in turn sell to out-of-town wholesalers either directly or via commission agents. Although the terms *girhast* and *gaddidar* are sometimes used interchangeably, it is useful to distinguish between them. I use the term *girhast* to indicate a master who engages in putting-out and who is generally from a weaving caste (either Ansari Muslim or a Hindu from a weaving caste). A *gaddidar* by contrast belongs to a trading caste (e.g. a Hindu Bania) and only trades,

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<sup>10</sup>*kothi* means house.

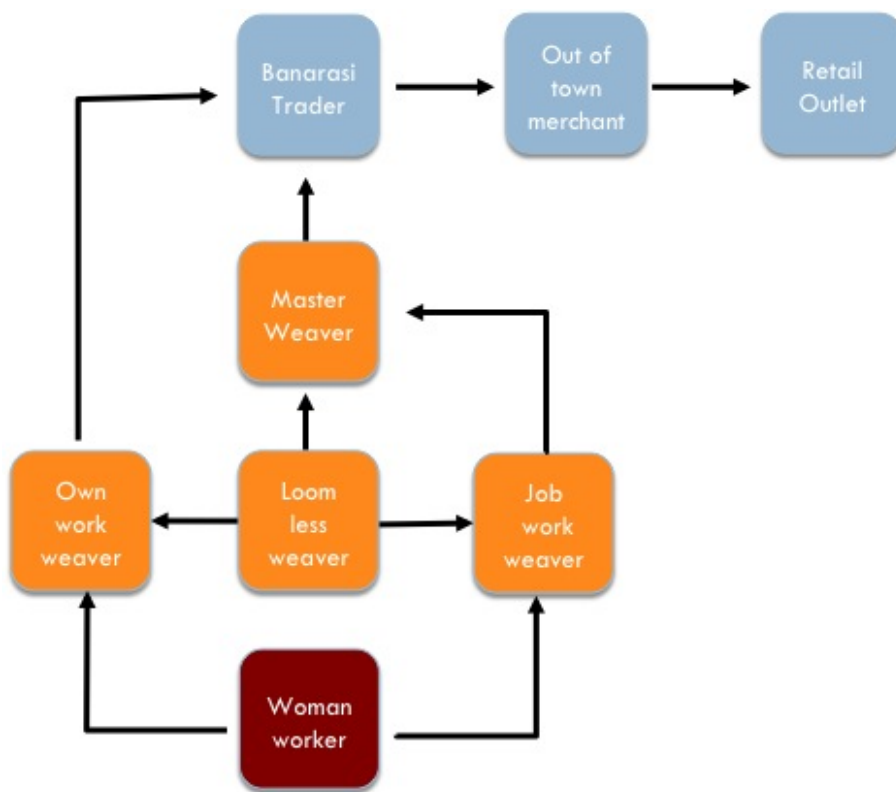
does not put-out. Of course, these distinctions are not absolute. For example, several Ansari master-weavers have stopped putting-out and are now only traders. Some Ansari master-weavers who do put-out work are large enough to deal directly with out-of-town merchants or exporters. *Girhasts* often maintain relations with more than one *gaddidar* to ensure cash flow. For example, one of the masters I interviewed put out work to 25 handlooms and divided up the product between three different merchants so that payments would be forthcoming from one or another source at any given time. No written contracts exist and employment relations are informal. Job-workers usually work for only one master at a time. But the relationship may be terminated at the end of any job period. At one time, typically the job-worker receives yarn for four to five saris (roughly 30 meters) in case of handloom and roughly ten times that amount for powerloom. Once he has finished the job, the wages and other terms of the oral contract can be renegotiated or the relation can be terminated. In my sample of 46 job-workers (handloom and powerloom) the median duration of association with a master was 2 years.

No representative sample surveys of the weavers exist, so we must construct a picture of firm size and organization from smaller, non-random surveys. My sample consists of 13 own-workers, 58 job-workers, 3 who undertake both, and 25 loomless weavers.<sup>11</sup> The findings of the survey, reported below, are in broad agreement with another recent survey of 98 handloom weavers in Banaras (DCHandlooms, 2008). As can be seen in Table 3.5 and Figure 3.9 the vast majority of weavers in the survey, including those who employed hired labor, had less than five looms. The median figure of 3 handlooms per family is consistent with the average reported in DCHandlooms (2008) (2.4 looms). What little survey data is available on Banaras pertains largely to the handlooms. The present study reports for the first time on powerlooms. A typical

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<sup>11</sup>Master-weavers and traders were not included in the survey, but were interviewed separately, as were State officials, NGO workers, ex-weavers and artisans doing weaving-related work.

**Figure 3.8.** Organization of the Banaras Weaving Industry, showing the location of women (red), Ansari men (orange) and Hindu Bania (trading caste) men (blue)



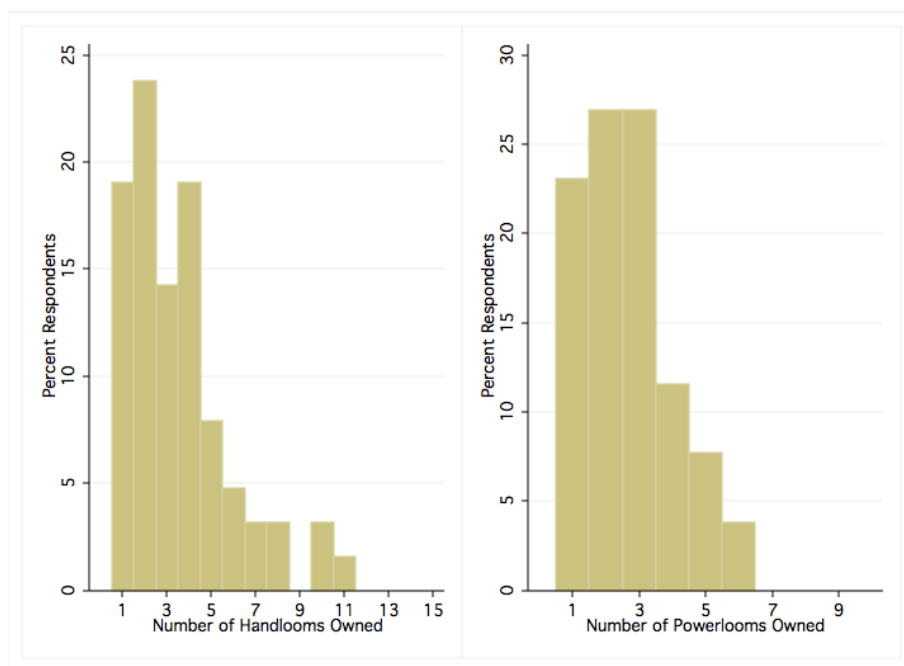
powerloom firm in the sample had under three looms. Although this should not be generalized to all of Banaras, it is worth pointing out that this figure is consistent with the national averages reported in the previous section. Larger powerloom workshops (or small factories) do exist in the city, but their number and exact size are a matter of speculation since much of this activity is kept hidden to escape labor laws and other types of official attention. In both hand and powerlooms, the vast majority of weavers still work either in their own home or in the home of the master-weaver/employer. The powerloom sector in Banaras is largely an outgrowth of the handloom sector and duplicates the same pattern of organization. It is worth noting that 92.6% of the powerloom weavers in the sample had been trained and had worked previously on a handloom.

**Table 3.5.** Basic characteristics of the Banaras weaving industry.

Characteristic	Mean (sem) / Median	N
No. of handlooms per firm	3*	64
No. of powerlooms per firm	2.6 (0.3)	26
No. looms owned by employer (for loomless weavers)	4*	20
No. hired workers	1.0 (0.2)	80
No. looms put-out to by master weaver	60*	35
Income per month (Rupees)	3142 (241)	68
Length of working day (hours)	9.6 (0.2)	57
Years ago powerloom installed	6*	29
% PL workers who worked previously on HL	92.6	27
Monthly output HL (meters of cloth)	38.6 (6.9)	17
Monthly output PL (meters of cloth)	294.8 (59.6)	5

Source: Field Survey. \*- Median values are reported due to presence of outliers.

**Figure 3.9.** Percentage of firms possessing specified number of handlooms and powerlooms.



Source: Field Survey.

Median monthly income in the sample was Rs. 2500 and the average was Rs. 3142 (SEM = Rs. 241). The typical family subsisting on this income has 6-8 members.<sup>12</sup>

<sup>12</sup>Self-reporting of income is known to generate unreliable figures, especially for those at the higher end of the income distribution. However for job-workers, loomless weaver and small own-



The loomless weavers interviewed in the present study worked in houses or workshops with a median of four looms. Thus it is by no means the case that only large workshops employ hired workers. Even job-working weavers are known to employ workers if needed, for example if a family member is not available to operate an available loom.

Although all accounts of Banaras agree on the types of weavers recounted above, there are no current statistics on the relative proportions of the different types. Hence it is difficult to get more than an impressionistic sense of the class dynamics in the industry. In keeping with DCHandlooms (2008), it appears to me that job-workers are the most numerous in relative terms. But this also depends on the particular weaving neighborhood in question. Madanpura, for example, is dominated by master-weavers and more well-to-do own-workers, while Bazardiha is a much poorer working class neighborhood (Raman, 2010). Small own-workers and job-workers to whom I spoke were often of the opinion that the spread of powerlooms and the ongoing crisis in the industry (discussed further in Chapter Four) has deepened class differentiation within the Ansari community pushing many small own-workers and even some master-weavers into job-work, and leaving fewer and larger masters at the other end, to put out work to them. However confirmation of this trend requires more systematic work. The visible signs of class differentiation are new multistoried buildings rubbing shoulders with traditional houses in disrepair and even slum-like dwellings.

“Masters” in Banaras traditionally have been skilled weavers, in keeping with the historical use of that term. But the new generation of *girhasts*, who are inheriting businesses from their fathers, need not be skilled weavers since they have not had the occasion to learn the craft on the handloom but have been trained solely in the coordination and management aspects.<sup>13</sup> Thus *girhast* or master-weaver (I use the

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work weavers who constitute almost the entire sample, the self-reported figure is consistent with a calculation based on piece-rates. This estimate is also broadly consistent with DCHandlooms (2008) which offers an average annual estimate of Rs. 20-24,000.

<sup>13</sup>See Section 2.5 for a discussion of apprenticeship and class position.

terms interchangeably) is more a class position and less a statement of skill-level. At the other end from the masters are the loomless weavers and job-workers who constitute the working class, both in objective and subjective senses of the term (they are paid piece wages and think of themselves as “mazdoor” or worker). Between the wage workers and the masters are the own-work weavers who, depending on their fortune and business skill may accumulate enough capital to graduate to the ranks of master or may lose their independent status and become job-workers. Other types of class mobility are also common. Loomless workers may acquire a loom and become job-workers, or master-weavers may withdraw from production and become merchants or traders.

Ansaris typically have large extended families and it is not unusual for brothers or cousins to occupy different class positions. For example, one of my key informants, Mohammad Salim, is an own-work powerloom weaver while his brother, who lives in the same house and shares workshop space, is a job-worker. From around 2004-2008 Mohd. Salim was also a job-worker and before that an own-worker and small master putting out work to a few powerlooms. When I interviewed him in early 2010, he had two powerlooms and was thinking of setting up a third (Source: Field Notes). This illustrates the fluidity of class boundaries. My other main informant, Javed Bhai has an even more striking story of changing fortunes:

In 1985, when I started work, we had five handlooms at home. Then it grew, I put work out to villages. I worked hard to expand the operation to 100-150 looms in just four years. Till 1990-91 this was the case, till the decline started, and arrears started accumulating with merchants. I could have installed powerlooms in 1990s if I had withheld some payments that I had to make to yarn suppliers, weavers and so on. But I didn't do that. I could not stand weavers or others coming to me asking for the money I

owed them. Now I have seen the whole cycle, from 1-2 looms to 100 and then back. (Source: Field Notes)

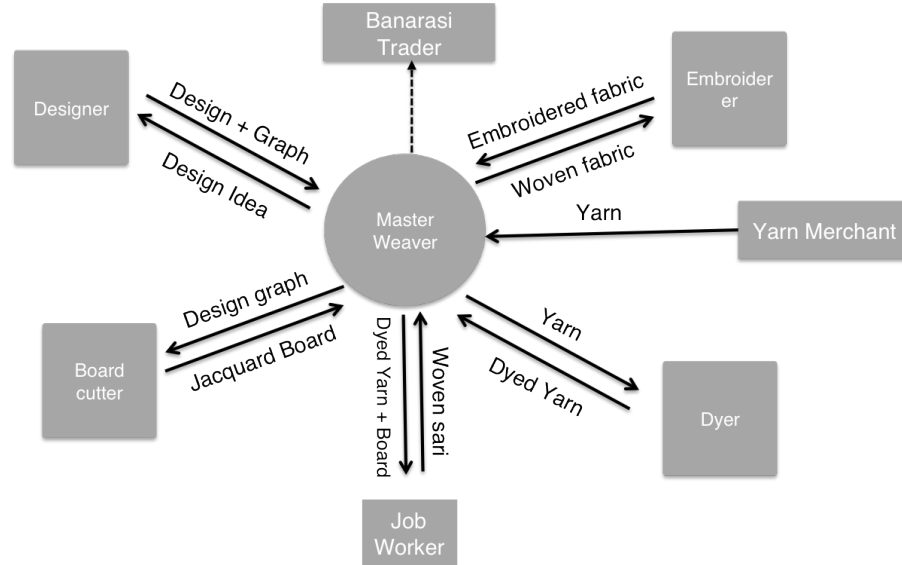
As with the peasantry, fine gradations in class status (in income and ownership terms) keep the weaver workforce divided. Even though there may be very little material difference between a job-worker who owns three looms and an own-worker who owns three looms, their problems are different and this impedes the creation of weaver organizations that could contend with the power of the master-weavers and traders.

### **3.4.2.2 Putting-Out and Piece Wages**

While in general terms putting-out in Banaras works as described in the previous section based on national-level NSS data, the role of the master-weaver or *girhast* is somewhat more complex than the general picture suggests. All the ancillary industries that support the weaving of the sari itself are also present within the city. These include dyeing, designing, punching of boards for the Jacquard, post-weaving embroidery and finishing of fabric. Figure 3.10 outlines the role of the master weaver in bringing different types of artisans together in order to make the final product. The master-weaver purchases yarn and gets it dyed. He also gets designs made and Jacquard boards cut for mounting on the loom. A job-worker typically goes to the master-weaver's house to collect the yarn and design boards. It is the weaver's responsibility to prepare the weft yarn for weaving, mount the warp yarn and the boards on the loom, set up the design and weave. Any stoppages due to maintenance or breakage are also the job-worker's responsibility as is the maintenance and repair of the equipment. The job-worker returns the finished set of saris (or dress material) to the master-weaver and is paid the previously agreed piece-rate. For their part, masters bear the risk of the market and keep abreast of the changing market trends. An inventory of different color and designs is built up by running the same design in

different colors on different looms. Coordinating production in order to build up the inventory is also the master's task.

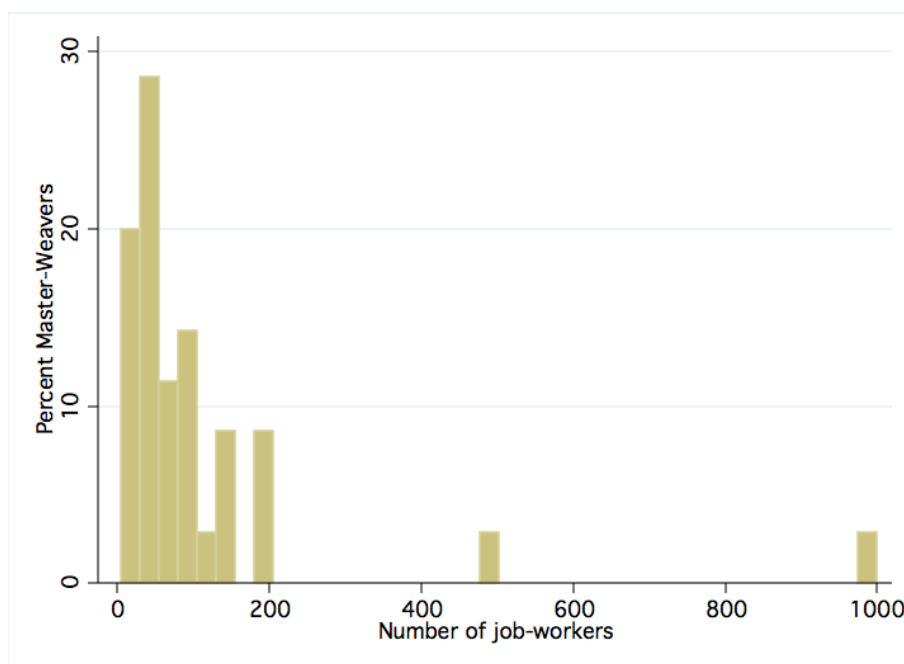
**Figure 3.10.** Role of the Master Weaver in the Banaras Weaving Industry



One *girhast* described the relation between master and weaver as *choli-daman ka rishta*, i.e. a relationship in which the two complete and complement each other. On the other hand, when asked to describe the relation, a job-worker simply said it was “like employer-employee relations anywhere else.” Weavers complain of lack of respect and of having to “sit where shoes are taken off” while masters complain about material theft and tardiness. As one might expect, the social distance between the two is a function of the material distance which in turn depends on the scale of the master's operation. It is difficult for an outsider to gauge the size of a typical putting-out operation because master-weavers tend to keep the number of looms they put-out work to a secret and only reply in vague terms if asked directly. Figures, when quoted, are likely to be underestimates in order to avoid taxes or other types of official attention. In the present study I adopted the strategy of asking a job-worker for an estimate of the number of weavers who work for his particular master-weaver (most weavers are attached at any given time to only one master-weaver). The basis of

this is that job-workers often spend time at the master’s *gaddi*, the section of the house where business is conducted, and hence have the opportunity to observe how many other job-workers come and go there. Only 60% of the job-workers offered a number while the rest denied any knowledge of the scale of their master’s operation or replied in vague terms such as “huge,” “not so big,” etc. With this method we obtain a median figure of 60 job-workers per master-weaver (complete histogram is shown in Figure 3.11). While the method is crude, it does reveal that *girhast* is not a homogenous category, but rather hides substantial variation within it.

**Figure 3.11.** Percentage of master weavers who put out work to specified number of weavers (estimated).



Source: Field Survey.

Estimates for the production costs of a handloom Banarasi Sari provided by Varman and Chakrabarti (2006) indicate that labor costs are roughly around 10-15% of the final retail price of a sari while DCHandlooms (2008) arrives at an estimate of 20-25%. The variability results from the fact that both estimates are based on specific types of fabric and there is great variation from product to product based

on type of yarn, complexity of design and length of value chain. While there may be some disagreement over the weaver's share it seems uncontroversial that profit rates are the highest for retailers. This need not necessarily translate into the highest mass of profits since retail turnovers are much lower than wholesale turnovers. Even if there is scope for disagreement over whether wholesale or retail merchants profit more from the sari business, almost everyone agrees that the price or wages received by the artisans themselves are very low. Even experienced and skilled weavers can be found earning Rs. 100 a day and many report wages even lower than this. One question that arises is, how far are such low wages a result of the recent recession in the industry and the effect of competition from machine-made fabric from Surat, China etc. Historical data on wages in Banaras is difficult to come by. Pandey (1981) reports piece wages in the late 170s ranging from Rs. 54-98 per sari which in 2009 rupees would amount to Rs. 486-882 or Rs. 81-147 per meter which is comparable to what we see today. This suggests that even in the so-called "golden age" of the Banarasi Sari industry, weavers' wages may not have been much higher than they are today.

The present survey collected detailed information on the piece-rate and the time taken to finish a piece, in order to establish the relationship between the two. A wide range of fabrics is produced in Banaras, from low-end synthetic machine-made cloth which pays around Rs. 4 per meter to silk fabric with delicate handwoven embroidery paying up to Rs. 500 per meter. In between one finds a range of piece-rates which correspond to the type of yarn and design being woven. Given the electricity situation in Banaras, a powerloom operator working on a 1940s vintage Japanese loom can expect to produce on average 1.3 meters of cloth per hour at a piece rate of Rs. 10.5 per meter, while on a handloom, productivity is roughly one tenth (14 cm an hour) and the average piece rate ten times as much (Rs. 104), giving comparable hourly wages for both types of weaving (Table 3.5 and Table 3.6). It is clear that handloom

weavers, despite being highly skilled often earn as much as or less per day than casual laborers employed under NREGA.<sup>14</sup> By most accounts, nominal wages have fallen in the past five to ten years. In my interviews, regardless of the topic being discussed, this fact weighed heavily into the conversation and weavers complained bitterly about being paid a wage close to that earned by manual workers who move dirt on construction sites. When asked why wages are so low, the most common response is low bargaining power on part of the artisan on account of an abundance of skilled weavers available to work at the going wage. The abundance of weavers is partly accounted for by reduced demand for the product itself. But there is another institutional reason as well. This is the fact that acquisition of these skills carries low material barriers and is integrated into the life of weaving families (see Section 2.5). Further, even though weavers are recognized to be skilled workers, the lack of education and formal training creates an appearance of a workforce that is lacking in training and hence in knowledge. I take up both these issues in the next section.

**Table 3.6.** Piece wages and productivity.

Characteristic	Mean (SEM)	N
<i>Handloom</i>		
Productivity (mts/hr)	0.14 (0.01)	62
Piece Rate (Rs/mt)	104.75 (9.26)	59
Hourly wage (Rs)	10.3 (0.5)	59
<i>Powerloom</i>		
Productivity (mts/hr)	1.36 (0.1)	27
Piece Rate (Rs/mt)	10.56 (0.96)	25
Hourly wage (Rs)	13.3 (1.0)	25

Source: Field Survey.

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<sup>14</sup>NREGA, the National Rural Employment Guarantee Act, guarantees a hundred days of work for Rs. 100 a day for rural adults to work on various public works projects. Despite many well-known irregularities in its implementation, the NREGA wage rate of Rs. 100 per day had become a minimum wage standard of sorts in the consciousness of the weavers I interviewed.

Further, in the putting-out system piece-rates have many hidden costs borne by the worker. Almost all the factors mentioned by the Sengupta Commission apply in the case of Banaras:

This wage has many hidden costs, including use of the house and electricity. Delayed payments and arbitrary cuts in wages on the pretext of poor quality also add to the hidden costs. Changing as well as complicated designs due to fashions when no training is provided for adds to the costs since one has to learn the new work from family friends or neighbours utilizing valuable time of both the informal trainers and trainees. Some not so hidden costs are the cost of inputs such as thread for the garment workers and maintenance of equipment (Sengupta et al., 2007, p. 90-91).<sup>15</sup>

One elderly rural handloom weaver recounts his tale in a way that makes his frustration with the wage payment system come alive:

Wages today are lower than they were previously. And even if wages were the same, we have to go four times to collect them. I go to the *girhast* with a sari, he keeps it and says “come day after tomorrow.” I have come from so far, from the countryside. I have to spend a minimum of Rs. 20 rupees to go there. I tell him I have no money. He says, here take Rs. 20. Next time I go, if he owes me Rs. 1200, he gives Rs. 500. “Come after a week.” What will I do? I wait a week and go again. *Girhast* says, “look the sari is still lying here [i.e it has not been sold], here take Rs. 200.” Meaning even for Rs. 1200, he will suck my blood and make come

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<sup>15</sup>A powerloom weaver in the town of Mau reports:

Q: So the piece-rate you are receiving is Rs. 30 per sari?

A: Yes, but even in that, if we are asked to change the design, we will have to pay for it. Not the mahajan. It takes one-two months to do it, it costs money and we have to incur the loss of lost production time, at least one month. Field Interview 2010.04.21



three times. Then you ask for more yarn, “ok come later we will see.” So you go five times! Rs. 100 gone from Rs. 1200 [in just traveling]. What can we say! People should talk to us to find out what the master-weaver system is like, we have done it all our life. (Field Interview 2010.04.28)

Wages are set by a process of bargaining between the *girhast* and the job-worker or loomless weaver. There is no collective bargaining and no intervention in the process from either the *sardars* (the community heads) or the merchants’ organizations. It appears that piece-rates are decided by estimating the number of days (for handloom) it will take to weave a sari (or a meter of cloth in case of dress material). This is multiplied by a daily wage rate, usually Rs. 80-100, giving the total amount. There is room for disagreement on how long a sari will take to weave. Often a sample is woven by the weaver before the wage is set, to get an idea of the work involved. The usual time range for handloom is between one to twenty days, the key determinants being the type and denier of yarn <sup>16</sup>, complexity of the design and the number of colors it has.

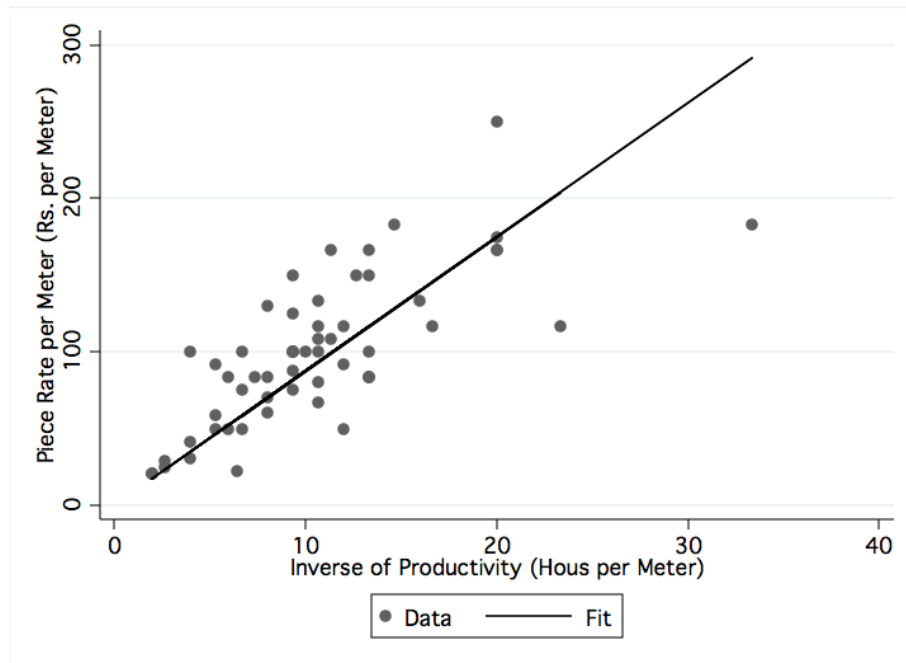
Intriguingly, the descriptions of the wage setting process provided by the weavers and masters suggest that one day’s work is valued roughly the same, in rupee terms, whether it results in a large fraction of a relatively simple sari or very small part of a more complex sari, i.e. that there is little or no skill premium involved. To check if this is indeed the case in the present sample of wages we can plot the piece-rate against productivity (meters woven per hour). Here productivity is a proxy variable for complexity of design: given little variation in handloom technology in Banaras, fewer meters per hour can be taken as an indicator of designs that take longer to weave because they require not only more labor but also more skill. A plot of piece rates (Rs per meter) against the inverse of productivity (hours per meter) is shown in

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<sup>16</sup>Deniar is a unit for measuring the linear mass density of fibers. Lower values denote finer yarn and higher values coarser yarn.

Figure 3.12.<sup>17</sup> In such a plot a skill premium would appear as a systematic departure from linearity as piece-rates increase non-linearly with lower productivity (i.e. more highly skilled work). But, apart from a higher scatter at the lower productivity end, the data do not show any such systematic trend, suggesting that hourly wage does not depend on the amount of skill required to weave a given type of design. In other words the hours required to weave more complex designs are compensated at the same wage rate as the hours required to weave simpler ones and piece rates are set without taking into account the fact that it takes more skill (i.e. knowledge input) to weave more complex designs as well as higher labor input. This amounts to a skill subsidy for merchants as well as consumers of higher-end products.

**Figure 3.12.** Hourly wage does not depend on productivity.



Source: Field Survey.

<sup>17</sup>The slope of the fitted line gives us an estimate of the hourly wage. This estimate (Rs. 8.7) is lower than that obtained by multiplying productivity with piece rates, shown in Table 3.6. This is most likely because of the variation produced by the relatively few data points and the scatter in the data.

Another indication that this may be the case comes from a master-weaver who brought the issue up in a discussion of the differences between a time-wage and a piece-wage. Commenting on a possible hourly wage system, he noted:

There is Rs. 2.5 per hour work and there is Rs. 25 per hour work. For example, if I am weaving a *jangla* [a type of complex pattern] then I will be able to weave only four inches in an hour, but if its a plain sari then I could weave even three meters in an hour ... If we say that plain cloth will be paid Rs. 15 per hour, then a cloth with design will become Rs. 30 per hour, if the design is really complex then it will be Rs. 50 per hour. The hourly rate will be set according to the design. (Field Interview 2010\_02\_25\_8\_9)

In the present system, it is clear that such a wide range of hourly-rates is absent. If weavers are asked why their skills are not valued more highly they usually answer in terms of labor supply and demand. Skilled workers are too many, they say, and the work not enough. Though this is undoubtedly part of the explanation, the role of production relations in denying weavers a return on their skill also cannot be overlooked. As I discuss in the next section, in the family-based apprenticeship system there is no explicit price of training, the implicit price being the contribution that the apprentice makes to the firm/family's output for which he does not receive a wage (or receives a small stipend). The costs are represented by the opportunity cost of the father's or trainer's time spent in instructing the apprentice. Masters and merchants do not bear any costs of training and under competitive market conditions cannot be expected to pay skill premiums.

### **3.5 Artisanal Knowledge**

In Chapter Two we saw how official sources on education and training render *lokavidya* invisible and I foreshadowed that a qualitative approach may be better

suited to exploring how lokavidya is generated and acquired. Weavers, masters and designers were interviewed specifically regarding the content of their knowledge and how they acquired it. I now present some results of this exercise.

In case of the Banaras weavers, the friction between the formal and informal in the world of knowledge is directly illustrated by the case of the Weaver Service Center (WSC) referred to earlier, whose stated aim is to provide technical support to weavers. A suggestive incident occurred on one of my visits there. While waiting to meet the Director of the Center, I introduced myself to his secretary. He asked what I was working on and I told him “the political economy of weaving” and “artisanal knowledge. On hearing the latter he asked “what is that?” The Director for his part, on hearing the same term asked “you mean education?” This response, though different and less derisive than the secretary’s, also demonstrated the theoretical lens through which artisans are viewed by formal sector workers: as lacking in education and hence in knowledge also. The Director also complained that the weavers do not show much interest in skill development initiatives run by the Center (“3 out of 20 may show further interest”). By and large, he noted, they are not keen to “improve” (Field Notes). The weavers, for their part, remain skeptical of the Center’s capacity to help them in any substantial way and resent the way they are treated there. Ateek Ansari, a powerloom weaver, journalist and long-time industry observer noted,

It [the WSC] is a white elephant. Ordinary weavers do not benefit from it. Some more aware people may go there and get some personal benefit. It performs the function of disbursing government aid. Foreign tours for market research may be sanctioned, someone is going to Singapore, someone to Malaysia and so on.

### 3.5.1 Artisanal Labor Process in Banaras

Putting-out allows class differentiation to proceed even as the artisanal nature of the labor process remains unchanged. It is thus well-suited to the exploitation of lokavidya-based labor. In this artisanal industry, as in many others, capital benefits from a ready-made well-trained and motivated working class which is proud of its knowledge and perhaps less expectedly, also eager to improve it. The words of an articulate middle-aged carpenter, who used to be a weaver ten years ago, offer an account of craft practice that is at some variance with the image of the artisan who sticks to his traditions:

A: You will find many who are earning a living. But there should be steady change in your trade, you must be forward-looking.

Q: And if you don't change?

A: You be there in the same place, doing your ancestral trade. I told you, I have been in this trade [carpentry] for 10 years. Those who work with me know that I will scold them even if they are senior to me, even if they are carpenters by birth. [I say] don't get stuck in what your grandfather did, try to do better work than him. (Field Interview 2010\_02\_18-7)

Of course, not all artisans may agree with our carpenter (indeed the ones he is scolding presumably do not) and neither will those who agree necessarily articulate it so precisely. And yet, speaking to weavers it is clear that they take great pride not only in their skills but also their ability to learn and change. The aspect of lifelong learning in particular is emphasized by both weavers and designers. Describing the nature of his work, one weaver noted that

...this work requires great patience. Its not for everyone. There are delicate designs. It is not the type of work you can teach in a 3 month course, it takes many many years, one keeps learning.

Pride over craftsmanship emerges particularly strongly when job-workers are asked if master-weavers can reduce previously-agreed piece rates by finding faults and defects in the product. A rural Hindu of the Yadav caste who worked for an Ansari master-weaver in Banaras reacted strongly thus:

Q: If there is a mistake will it be deducted from wages?

A: Yes, if there is a stain or if the fabric is cut or torn then wages will be reduced.

Q: But only if it is called for, not if...

A: No, no! You are an artist [*kalaakaar*] so you yourself can identify the fault, they can't just make up faults. If there is a mistake, other weavers will gather, they will fight. He may be the master-weaver but we will fight. If it is my mistake I will admit it, if not I won't. Bring me my work, I will see for myself. (Field Interview 2009\_12.29\_6)

As mentioned earlier, the artisanal mode of subordination of labor to capital leaves the boss's brains under the worker's cap. This requires the weaver to possess a range of knowledge of production not strictly limited to weaving itself. These extra responsibilities are also part of the weaver's identity. Weavers were often reluctant to speak about their skills and knowledge in substantive terms, preferring instead to remark on the underpaid nature of their skills. Whatever craft pride one can find today in Banaras persists in the face of very low standards of living, hence remarks about knowledge and skill are almost always accompanied by a lament that the knowledge is "not worth what it should be." As Venkatesan (2009, p. 130) notes in the context of mat weavers of Pattamadai in Tamil Nadu, "the warring elements of pride in, and resignation towards ...weaving" is a common theme in a weaver's self-narrative. But if the interviewer shows interest in the work itself and not just its economics, a few weavers do agree to speak on technical matters as well. One type of response with respect to technical capabilities beyond weaving itself is:

We weavers don't just know how to weave. Along with weaving we can also set up the loom, what in other fields would be called an engineer, if something goes wrong, we can repair it. Only Jacquard boards and designs are done by different people, everything else is done by us. (Field Interview 2009\_12\_22\_3)

A marker of artisanship beyond weaving itself, is the ability to construct a handloom “ab initio.” One handloom weaver, after noting that an ordinary artisan [*chalu kari-gar*] could not weave what he was currently weaving, added that he had made his loom himself.

A: Not every weaver can do this, you need an engineer.

Q: Where did you learn to make it?

A: I learnt it on my own [*apne dimaag se*], I didn't have to go anywhere to learn it.

Q: Just by yourself? Making mistakes along the way?

A: Of course making mistakes. That's always the case. But if you want to learn something you can't be worried by how long it takes. (Field Interview 2009\_12\_22\_5)

Such responsibilities as repair and maintenance, mounting yarn on the loom (particularly handloom), setting up the Jacquard mechanism are viewed as a natural part of the weaver's work but today it is also viewed as unpaid work, which the master-weaver is able to extract by virtue of the putting-out arrangement. Thus, responding to the question “do you think you are different from those who do only manual labor [*mazdoor*], that you have skills they don't have”, the weaver just quoted replied matter-of-factly

A: We are also laborers, really.

Q: But we were just discussing that you know all this “engineering?”

A: We don't get money for that. If we get that work done from someone else we have to pay them, but if we do it ourselves we don't get any extra money for it.

Q: What do you think is the reason for this?

A: We have no alternative. If they want they can give [more money], but they don't. They see that we have no other option [but to work]. (Field Interview 2009\_12\_22\_5)

The alternative is put forth by an elderly job-worker who once sold his own product:

We are tired of this. If government opens some factories, we will send our children there. The government should open factories for the unemployed, give them decent wages according to inflation. There is a lot of space here [in Banaras] but there is nothing [no source of employment]...I understand that factory work won't have that freedom of going to get pan, tea, getting up when you want. But will we consider freedom or the stomach? Stay away from freedom! Everyone one is thinking, we don't want such freedom that doesn't fill our stomachs. (Field Interview 2009\_12\_22\_1)

"Freedom that doesn't fill the stomach" exactly captures the current state of the weavers of Banaras and brings to attention the tradeoff faced by them. Subjective preferences (for freedom or the stomach) and objective conditions such as presence or absence of employment opportunities outside the artisanal sector together determine labor supply decisions in the latter. In the face of greater competition and reduced demand, a preference for freedom and/or a lack of other employment can be seen in the form of greater self-exploitation by the artisanal family.

More and more, weavers rue the fact that they did not learn any other skills. I was told many stories of how lucrative employment in other professions was turned



down by men from weaving families to return to weaving because the latter was seen as a stable, remunerative job that could be carried out at home. Today the general sentiment appears to be, “do not bring your children into weaving.” Even freedom of the artisanal labor process, previously a valued attribute is threatened:

Q: Which would you prefer? Working in a factory or working at home?

A: The one which pays more is better.

Q: Does the freedom you enjoy at home mean anything to you?

A: What can it mean, there is no “duty” here,<sup>18</sup> but no one works less than 12 hours, so there is no freedom, nobody with a job works more than eight hours. We are as unfree at home as we would be anywhere else.

(Field Interview 2009\_12\_22\_4)

### **3.5.2 “You don’t teach a fish to swim”: How Weavers are Trained in their Work**

What constitutes “training” and what constitutes “merely” life or work? The answer to this question shapes our understanding of knowledge itself. One of my respondents, the same weaver-turned-carpenter we encountered in the previous section, had this to say when asked about learning to weave:

Our trade is such that, just as a fish is not taught how to swim, our children are the same. They learn the skills by-the-by [*dekhte dehte*]. There is no need for any formal studying. In this respect we are very different from you. You will do everything by studying, and as for us, even if we don’t study at all, we will do our work just fine. That is the difference. (Field Interview 2010\_02\_18\_7)

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<sup>18</sup> “duty” refers to compulsory factory or office working hours.

For most men as well as women, growing up and learning work appropriate to their gender are indistinguishable processes. Boys can weave and girls can do preparatory yarn work as well as needle embroidery work by the time they are young adults. A key consideration during marriage is the ability of the girl to undertake not only care-work but also all weaving-related activity. Thus the opportunity cost of training for the apprentice is effectively zero and there is no explicit price of the skill transfer process for either men or women. One can hypothesize that under “normal” conditions, i.e. when the artisanal sector in general and the Banaras industry in particular are not facing a crisis of survival, some of the investment in training is recovered via protection from competition afforded by caste restrictions on entry and a ladder of compensation which allows recovery of investment during the person’s own lifetime, as well as an inter-generational recovery made possible by transference of skills to the next generation. All these “traditional” mechanisms are threatened by capitalist competition. In the crisis conditions of today, such training has become more a default option undertaken because of lack of opportunities to do anything else (or social restrictions on mobility in case of girls). However, many weavers recall happier days when they passed over educational and other opportunities to return to weaving because it was a guarantee of a good livelihood and could be undertaken in the comfort of one’s home together with one’s family.

**Table 3.7.** Apprenticeship and schooling in the Banaras weaving industry.

Characteristic	Mean (SEM) / Median
Year apprenticeship started	10.9 (0.5)
Years of apprenticeship	4.2 (0.4)
Years of formal schooling	0*

Source: Field Survey. \*- Median values are reported due to unreliability of mean.

The typical weaver in the sample has no formal schooling (but usually has some religious training and ability to read Hindi and Urdu) which gives rise to the com-

mon perception of the weavers as “ignorant and uneducated.” Boys in the Ansari community typically start learning to weave around age ten and on average weavers report taking around four years to learn the basic skills (Table 3.7). This period is not very different from that reported for weaving apprenticeships in other contexts (e.g. Mohanty (2006) for Rhode Island weavers in the early 19th Century). Since the Banarasi fabric has complex designs and embroidery, the period of apprenticeship reported here maybe longer than that required for simpler fabrics.

The numbers presented in Table 3.7 are good as far as they go, but it became clear during the interviews that many interesting details lay hidden behind the numbers. When asked about the age they started learning or how long they had been weaving, many weavers used the phrase *jab se hosh samhala* which roughly translates as “since I became conscious” or in other words, for as long as one can remember. This is exactly the expression used by Lucknow chikan embroiderers interviewed by Wilkinson-Weber (1999). Other weavers used metaphors such as “one doesn’t teach a fish to swim” or described weaving as a *sanskriti* [culture] at home, all to emphasize, in the words of one retired weaver, that

Just as a boatman’s child doesn’t have to be taught to swim, he automatically learns it, the same way all these people don’t have to go to any school to learn. (Field Interview 2009\_12.23.3)

As with the Zapotec weavers in Oaxaca, so in Banaras, children learn “by undertaking minor tasks that support the work of weavers and thereby contribute to the economic livelihood of the household.” (Wood, 2008, p. 143). Wood’s descriptions of children in Oaxaca participating in washing of wool, winding enough yarn onto bobbins for a day’s worth of weaving in an hour or two before going to school, are similar to the way children are inculcated into weaving in Banaras. The stages of apprenticeship are closely intertwined with the process of growing up, and at almost every stage learning and productive work are intertwined also. One respondent, a

loquacious young master-weaver who had left his family to make his own way in the world, described the stages in detail. I quote at length:

Q: So you learnt as a child at home?

A: Yes.

Q: How old were you when you started helping?

A: If you ask an Ansari boy how old he was (when he started learning), he will not be able to tell you. The workshop is downstairs, the weaver lives upstairs. When a boy starts walking, his mother says to him “take these bobbins to the workshops.” That is how it starts. . . When the warp is being dried after dyeing small children from home are taken to the field to hold it up, to prevent it from touching the ground. In weaving, this is how the child enters the trade. At that time the child is three years old.

Q: What comes after that?

A. When the boy is four years old he is given a small empty shuttle, which he can practice throwing between the warp yarn every time his father uses the treadle to lift the warp and pass the weft yarn through. Whenever he has some free time, (his mother will say) “son, go to the workshop” just like in educated people’s homes the mother says “son, go and study.” Slowly, in four or five years he starts helping with the sari border on one side, which in our language we call embroidering. He will break the delicate silk yarn, he will get beaten. In five years time, he has learnt everything, now he has only to wait till his body is big enough. He is not tall enough (to reach the treadle), the fabric is 45 inches wide, his arms only span 36 inches, so he throws the shuttle and runs to catch it. Now his mother prays , “let my son grow up quickly.” (Field Interview 2010\_05\_02\_1)

Not just work, but play enacts learning also. Wood's description of children playing at makeshift looms created from upturned chairs brings to mind Banaras children playing/practicing with shuttles on the warp, as their fathers/brothers weave, or merely "hanging about" in the workshop being acclimatized to the sights and sounds of work. Lave and Wenger (1991), whose ideas on situated learning were introduced in Chapter Two, describe such activity as "legitimate peripheral participation." In this view, learning is participation in social practice through well-defined social roles. Another way of saying this is that "learning is a 'by-product' of the culture routine" (Wilkinson-Weber, 1999, 131). The implicit-explicit or purposive-accidental nature of learning seems characteristic of lokavidya acquisition. There is an awareness that this is a preparation for a livelihood (and not some amateur dabbling) but there is also an unconscious or by-the-by quality to the actual process.

All this leads to the conclusion that the family milieu is critical to knowledge acquisition. And since the family unit is also the class unit, class status is an important determinant of the knowledge acquired. The type of activity going on at home sets the boundaries for learning. Thus a son of a master-weaver, by virtue of his class position may not learn the craft at all. Says the young master-weaver quote above (somewhat exaggerating his point)

Today 90% weavers do not know how to weave. They are Hajis, Ansaris, everything, but they don't know how to weave.<sup>19</sup> Their father was a master-weaver. He made his son check the delivered products, made him carry packages, he did not introduce the child to the loom, he relied on hired weavers to do all the weaving. It is not necessary that the son of a

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<sup>19</sup>Haji is an honorific given to a Muslim who has completed the Hajj or pilgrimage to Mecca. Among the Ansaris it is a mark of respect as well as recognition of wealth since it can take over a hundred thousand rupees to complete the Hajj, an amount well beyond the reach of most weavers.

car-owner becomes a good driver. These are the kids who haven't woven for 20 years. The government considers them weavers. I don't.

However, these are not limiting boundaries. They can be and are transgressed. Sons from loomless families do not have an opportunity to learn at home either, so they go outside.

There is a third reason a weaver's son may go outside the house to learn: in order to learn skills that are not found at home. An example of the latter is a handloom job-work weaver, now in his 50s, who had learned outside the home because his father used to weave plain cloth, and at that time the father recognized that more "fancy" work was going to be in higher demand. So he wanted his son to learn the newer techniques, using a jacquard.

Father used to make plain sari with border on either side and nothing in between. The yarn was also thicker (than silk). So he sent me out because he wanted me to learn the new stuff, that was good. It is still serving me. More and more fancy designs are being made, I can weave them all. (Field Interview 2009\_12\_22\_1)

The same process of slow inculcation into the work of weaving was also reported by this weaver.

Q: When you were learning as a child, who did you learn from? This work requires skill, how did you learn it?

A: I used to go to school. My father used to work by himself. When I passed 5th grade, father said do some work, we are not able to meet our expenses. There was a *sauji* [a Hindu master] in this neighborhood, 10-12 looms he used to run, father took me there. I used to sit there all day, and watch. Other children used to come there. I used to do work like fetching things from here and there, helping out. (*ibid.*)

The respondent goes on to describe his progression from running errands to sitting by the side of the weaver helping out with embroidery for Rs. 15 a month, and then after a year getting a loom of his own, installed by the master, and working on it for Rs. 50 a week, when the regular wages were Rs. 75 for the same job for expert weavers. After a year when he started doing clean work without faults his wages became Rs. 70.

Even though weaving is in the air and is part of the culture, “learning to weave is the responsibility of the person doing the learning” (Wood, 2008, p. 154). Stress is laid on the role of individual capacity in assimilating knowledge. This was clear in the responses to the question “How long did it take to become a good artisan?” where often the vague, yet telling response was “it depends on your mind [*dimaag ke upar hai*].” One handloom job-work weaver with young children elaborated on this theme while lamenting the lack of seriousness among today’s youth.

Q: Did your father teach you?

A: Yes I learned at home. But my children wont be able to learn as much as I did.

Q: Why?

A: It depends on your interest. You have to have the inclination to solve your own problems. I never called anyone for help. First I tried to figure it out myself before calling any help. The children are not like that, if something breaks or spoils, they will run away (from work). You ask them, why aren’t you weaving, they will say, it’s broken. Everyone’s children are the same. (Field Interview 2009\_12\_24.4)

This remark could be motivated by anxiety to do with extraction of labor from the apprentice as well the anxiety of the father for a son’s education. In either case, I quote it to show that weavers may describe learning to weave as indistinguishable from growing up, but they are also aware that learning is not effortless or “natural.”

If the family is critical to knowledge transfer, it is even more so for actual production itself. Weaving families display a rigid division of labor and the smooth running of the combined family labor process is essential to keep production going. This is ensured through a strong inculcation among women of a sense of duty towards their husband's work. The established system of training and labor extraction provides merchants and masters with a large, well-trained and disciplined workforce. Weavers often complain that the putting-out system allows masters to exploit the entire family's labor for one person's wage. The elderly job-worker cited earlier described weaving as the type of work where the children, the women, the old, all have to work together to make a sari. Typically this issue came up in discussions of piece-wages. One weaver, who we heard from earlier in the context of the "engineering" aspects of his work, said rhetorically,

If we get work regularly, then we can earn Rs 100 in a day. But even that includes the contribution of other family members, for e.g. my wife who does the preparatory yarn work, what about her wages? (Field Interview 2009\_12\_22\_3)

At the end of an hour-long conversation with a group of job-workers and loomless weavers at a restaurant in the poor weaving neighborhood of Bazardiha, the restaurant owner, himself an ex-weaver, could not restrain himself and blurted out:

People are not telling you the main thing, without children and women a sari would never be completed. When the whole family works a sari is made. If you are told that we earn Rs. 100 a day, you might think he (individually) earns that much, but if you account for the whole family's work, it is difficult to earn more than Rs. 50 a day. (Field Interview 2010\_02\_22\_7)

The question of the value of women's work in weaving is taken up in Chapter Five.



### 3.5.3 Knowledge spillovers: The World of Banarasi Designs

The authenticity of the Banarasi Sari rests upon a ceaseless process of imitation. The center-piece of its identity, something that instantly singles out a piece of fabric as Banarasi is known in local parlance as the “mel” (Hindi) or the “design,” i.e. the pattern found particularly on the fabric’s border and on that part of the sari known as the *anchal* or *pallu*. As I describe in this section, these designs are not copyrighted or patented, they are freely copied and imitated by the “designer” or “naqsheband” (both labels are used in Banaras) from existing designs. As I will discuss in Chapter Four, in the Geographical Indication issued in the name of the Banaras Sari a few categories of designs have been singled out as “Banarasi” but a close look at the design process shows its fluidity and the difficulty in setting borders between authentic and inauthentic designs. A question that my work raises is, how does the the actual process of creating designs mesh with the attempt to fix the “Banarasi-ness” of a sari?

Unlike dyers, Jacquard board cutters or *zari* (gold thread) makers, who may be Ansaris or may belong to Hindu castes, designers tend to be mostly Ansari. Often one brother may choose to become a designer while the others weave, and it is not unusual to find the same person doing both. Like weaving, designing is a male occupation. It takes anywhere from two to ten years to become a good designer, the duration depending upon the child’s aptitude and dedication as well as the level of competence he (this is a male occupation) desires. One designer, now in his 40s, who had also learned handloom weaving as a child and now owned several powerlooms, described the apprenticeship process thus:

Q: How long does it take for a child to learn designing?

A: It is like a school, graduating from one class to another. And the more you apply your mind the more you will succeed [*dimaag ki baat hai*]. Some learn in 2-4 year, some 7-8 years. My father used to say that design is such a field that you can go on learning all your life, there is so much

skill in it. You may start working in 2-4 years, but artisanship is another matter.

Q: It is lifelong?

A: Yes.

Q: Do you think you are still learning?

A: Yes, I am still learning, I am trying something new, doing some research, isn't that learning? (Field Interview 2009\_12\_23\_1)

Like weaving, apprenticeship in design has no explicit price and like weaving, designing is also falling out of favor with children today because it is not seen to be a remunerative occupation. The designer quoted above laments:

A: About a hundred children would learn at my place. Today there isn't even one, because they don't feel the need. This house would be full. There were no fees, we would teach them for free. My father was a very well-known designer, you can ask about him anywhere in Banaras.

Q: Has design education always been free?

A: Yes, the traditional method is free, but on the computer they charge money. We believe that knowledge doesn't diminish by sharing.

Q: Don't people think if I train this person they will compete against me?

A: People do think like that, but we don't. My father used to think differently and that is the training we have received. After all, he (the apprentice) will have to make it on the basis of his own luck.

There are two basic steps in the design process. First the pattern is sketched on a plain piece of paper with a pencil. This pattern is based on traditional motifs along with any innovations the designer may have made. Typically the designer works on instructions from a master-weaver or an own-work weaver who has commissioned the design. The next step is to replicate the sketch on a graph which will be used in cutting

the Jacquard boards (Figure 3.13 shows an example of a design graph alongside the woven pattern it resulted in.) This step is often performed by the apprentice because it requires only patience and a steady hand and not creative input. This achieves two aims “their hand gets moving and our work gets done.” Once again training and productive work are inseparable and the cost of training for the apprentice is the foregone earnings from his contribution to the product.

**Figure 3.13.** Banarasi border (top) and corresponding graph.



Source: Field Photos.

Design work is either done freelance or by designers employed by large master-weavers or traders. Highly reputed freelance designers often have long-term relationships with a few clients who regularly commission work from them. The commissioning of designs is undertaken only by traders who want to set their own range (as opposed to buying what appears on the market) and by those weavers who have the capacity to sell directly in the wholesale market, i.e. master-weavers and own-work weavers. The majority of weavers, i.e. job-workers and loomless weavers are given the design they are expected to weave and play no role in its selection, though it is

their job to meet any technical challenges that may present themselves in weaving complex designs. As we saw in the previous section, the complexity of the design that a job-worker or a loomless weaver is asked to weave plays a role in the bargaining over piece rates. Designs are developed by designers in collaboration with the *girhast* or *gaddidar*. An initial idea may be suggested to the designer or an older pattern may be shown. He then improvises on that idea or design. As expected of a creative process, all the designers I spoke to emphasized the role of the mind and that undefinable element of inspiration (the phrase used was *kudrati nizaam* or natural order). Inspiration for improvisation may come from various external sources such as books, magazines and catalogs, and increasingly television. But the most important external source is the work that other designers are doing which is available via the market.

Q: Do ideas for new things come from experience? The Market? Books?

A: We glance at books also, but it often happens that designs from books do not work in our set-up, though we do take something from them, an idea perhaps. But more often what happens is that when I go to the market, a thousand different designs pass before me, taking this idea from one, that idea from another, I create a new thing. The operative thing here is the mind. It comes from the mind. (Field Interview 2010.06.02)

Here as in Otavalo, Ecuador, knowledge spillovers are critical, and since designs are not patented or copyrighted, imitation is endemic. Banaras has a large local wholesale and retail market and a stroll through the marketplace can be enough for the trained eye to see what is selling and what is not. Patterns that do well on the market spread quickly via spillover effects.

Lack of intellectual property rights means that secrecy and integrity are important before the pattern is on the market and designers are expected not to divulge designs they are doing for one person to another. There is intense competition among master weavers to bring out newer designs whose monopoly profits will accrue to the master-

weaver before it becomes generalized via imitation. From the traders and masters the constant refrain is “show us something new.” A given design is produced only once by a designer, and designers take pride in their ability to not repeat themselves. One designer who had left the trade due to the recession and now ran a popular fast-food stall put it thus:

All the people I worked for, for 17-18 years, even today, ten years after I left the work, they mention my name to others, that he has left design work but such was his talent that once he made something, he never repeated it...I always thought, what has been sketched already, don't think about that. If you keep that in mind then one way or another, you will find yourself doing the same thing. Your thought won't progress. (Field Interview 2010\_06\_11

The weaver trusts the designer not to sell the same design to another customer. Once again the ex-designer:

Q: Is it true that this system runs on trust? That when you make a design, you don't show it to someone else?

A: Yes, that is my responsibility. If I make a design for you, then it is for your eyes only...If that design comes out very well and some other *girhast* says make this one for me too, I don't have the right to betray trust in this fashion. If I do this it is like I am trifling with my livelihood. Those designers who are not good, they do such underhand stuff. Good ones don't because whenever they want they can produce a new design.

After production the design becomes the property of the person who commissioned it. No copies are kept with the designer. Most *girhasts* have an archive of older designs they have commissioned over the years.

Although innovation is given importance, changes are conservative in nature. The system, highly reliant as it is on spillovers and on incremental changes, is not very amenable to patents or copyrights. Raising the issue of patenting of designs often evoked merriment. But one master-weaver in the town of Mubarakpur about 100 km north of Banaras did speak of the need to have a patenting system as part of his vision for a reform of the industry. He articulated his case thus:

Say you got a pattern made, I am a *girhast*, you are also a *girhast*. I steal your pattern. If this system is brought under patent law, I won't be able to steal your design. It will be like a "marka" (i.e. a trademark). The aim is only that I should not be able to copy the design you have made because Banarasi is based upon these designs only, it depends entirely on designs, otherwise, six meters you also make, I also make, what distinguishes us is the design. If yours is selling more I can steal it. If there is a patent this won't happen. (Field Interview 2010\_02.25.8.9)

In fact under the current system patent enforcement is nearly impossible. When I raised this issue with another designer, I merely got a laugh in return. Incidentally this master-weaver asking for a system of patents is the same one we heard from earlier on a possibly hourly-wage system in Banaras. It is fair to say that he had the most unusual ideas of all those who were interviewed.

The pool of designs, from which all designers draw, is partly an open-access resource and partly available to a member of the community via training systems. Of course the conditions that need to be met in order to translate an existing set of designs into something new and marketable are met only within a specific community of designers. Thus the partly open-access resource is transformed into a commons, access to which is regulated by community training norms. Generally speaking this is true for any information or knowledge commons, that it only stores knowledge in the "know that" form, and requires a community of people with the relevant "know how"

to utilize it. Of course this commons is not, like Free/Libre Open Source Software (FLOSS) or Wikipedia, created for the purpose of free sharing. Indeed it cannot be, because designs are knowledge products which have to be sold in order to generate livelihoods for their creators. Any new design produced on the basis of this commons, is itself private property for the time that it can be guarded as a secret. But inevitably it comes out once the product is on the market and after that it belongs to no one or to everyone to imitate and modify. Thus it is a commons that comes about for lack of excludability. In this it closely resembles the “cultural commons” of the wool and acrylic sweater weavers of Otavalo in the Ecuadorian Andes, described by Colloredo-Mansfeld and Antrosio (2009). The strength of such a system is that no resources are devoted to creating a legal system of exclusion and incremental changes are easy to make since no copyright is infringed. Its weakness is that lack of copyright encourages hoarding for as long as possible and changes tend to be conservative.

### **3.6 Discussion and Conclusion**

A brief review of the results is in order. NSSO data on informal weaving reveal that hand and powerloom sectors have become equally important from the employment perspective, the powerloom sector even surpassing handlooms in this regards by some measures. Together they account for around 5 million workers in India. Both sectors remain highly decentralized with average firm size being 2.4 workers in case of handlooms and 3.8 workers in case of powerlooms. Unpaid family workers are crucial to the functioning of both, though wage-workers assume larger significance in the powerloom sector. Firms employing wage-labor remain in the minority (23%). The vast majority of petty-proprietorship and family-labor firms are home-based (over 90%) and the majority of firms employing wage labor are also home-based (58%). The majority of firms in both sectors undertake work on a putting-out basis. Future NSSO surveys can be used to trace the evolution of production relations in weaving.

This national-level study fills a gap in the literature on contemporary organization of weaving in India.

In the second part of the study we saw results of an ethnographic study of the Banarasi Sari Industry to address issues that cannot be dealt with using NSS data. A study of the putting-out system in Banaras reveals the crucial role of the master-weaver in coordinating production across five distinct types of artisans, weavers, dyers, designers, board-cutters, and embroiderers. Indirect estimates reveal the typical size of a putting-out operation to be around 60 job-workers per master-weaver. Although the master-weaver system is an old feature of the industry, as small own-workers have been squeezed out of the market and as newer more capital-intensive techniques such as Pick-N-Pick powerlooms and computerized embroidery machines have arrived, the power of the master-weavers has increased. While the system has ensured that weavers continue to find employment in their traditional trade, the exploitation of weavers continues apace. Piece-wages are not paid in a timely fashion and do not take into account the level of skill required to perform a job. Capital accumulation by masters and merchants is enabled by certain key knowledge-institutions that ensure the supply of a well-trained labor-force. Though weaving, and in particular Banarasi weaving, is widely considered a skilled occupation, the present study is one of very few that investigate apprenticeship methods, artisanal labor process and knowledge spillovers to bring to attention the institutions that create and sustain artisanal knowledge.

Through examples of training in weaving as well as design of Banarasi fabric patterns we saw that the artisanal sector, via family-based and other informal training systems, subsidizes knowledge (re)production, the benefits of which accrue to consumers as well as merchants. The apprenticeship system (similar to many “classical” systems described historically for Europe and other areas) and knowledge spillovers both indicate that unlike the modern capitalist sector that operates via knowledge monopolies created through patents and trademarks, the artisanal sector is close to



the “competitive ideal.” Despite a lack of patents, the artisanal sector does not lack incentives to innovate and transfer knowledge because the traditional system provides both an assurance that the returns to human capital investment are recovered across generations, and a skill premium.

However as the artisanal sector becomes increasingly subordinated to the capitalist sector these assurances disappear removing incentives for knowledge transfer, as saw in the Banaras interviews. Though craft pride is unmistakable in the voices we heard, it is tinged with despondency and uncertainty regarding the future. The freedom to practice their skills is also the freedom to starve.

## CHAPTER 4

### WHAT IS A BANARASI SARI? IMITATION, AUTHENTICITY, AND INTELLECTUAL PROPERTY RIGHTS IN ARTISANAL KNOWLEDGE

Let me tell you something about the Banarasi Sari: If you go to sell it, you won't find a buyer, and if you want to buy it, you won't find a seller!

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Mohd. Salim, a Powerloom Weaver from Banaras.

#### 4.1 Introduction

In this chapter, we return to a theme that was dealt with in largely theoretical terms in Chapter Two. I argued there that *lokavidya* is intimately connected to working and living. To put it in databases is to remove it from its work and life context, whether the motivation is to preserve it or to manage and control it. In fact both preservation and management are two faces of the same coin, viz. participation in the global capitalist market. A particularly clear example of the combining of both aspects is the Geographical Indication (hereafter GI), a collective Intellectual Property Right (IPR) that has recently found much favor among those who seek to preserve traditional crafts in India and elsewhere. The name suggests that such an IPR would be most relevant for agriculture-based products and indeed the most famous examples of the GI are wine from Champagne and tea from Darjeeling. But, in India, GIs have been issued for hundreds of craft products (principally textiles, but also many others). The IPR confers legal status on a body of local artisanal knowledge by issuing a trademark for the product that results from such knowledge (say carpets from Bhadohi or silk saris from Kanjeevaram). It prevents producers

from other part of the country or the world from using the trademark name to brand their own products. The cultural imperative is to preserve or protect crafts from vanishing and the economic rationale is to create monopoly rents by guaranteeing authenticity of a craft product to consumers in the global market.

I argue that the GI approach, at least as it is being implemented in India, seems representative of a “preservationist” view of craft that seeks to fix craft knowledge in time. When a craft is threatened because it is no longer economically viable the preservationist view becomes concerned not directly with the question of survival of artisans but with the question of authenticity and preservation of craft through which survival of artisans will be achieved. This is because it sees craft as timeless or traditional and seeks to integrate craft into the global market on these terms. In order to capture and maintain a niche in the global market, artisans must figure out how to adapt to changing markets, tastes, techniques, and resource-bases while preserving the “timeless” reputation of their craft. But who decides what should be preserved and what discarded? How are criteria of authenticity developed? Are authenticity and preservation of craft concerns of the producers or the consumers? And if the latter, which type of consumers?

The Banarasi Sari industry offers an ideal case to study the contradictions of this type of insertion into the global market. Although the industry is not as dependent on the export market as the carpet industry in neighboring Bhadohi it can still be studied from this angle because it enjoys a stable niche in the national market. The Banarasi Sari is a cultural icon in India. Along with Kanjeevaram, Chanderi, Patola and a few others, it belongs to the club of elite saris which are required bridal wear in many parts of the country. As we saw in the introductory chapter, the reputation of Banarasi weaving has been built over a period of hundreds of years by generations of handloom weavers who have perfected the art of woven embroidery also known as “brocade.” Casually inquiring about the age of the Banarasi Sari in Banaras often

elicits the response “sadiyon purani hai,” it is centuries old. As we saw earlier, it is clear that the weaving tradition in Banaras is indeed centuries old, but whether what we know today as the Banarasi Sari is also of such ancient provenance is far from clear. In fact, as I show later in this chapter, the sari has undergone major changes in the last hundred years and continues to change today.

Taking the example of one such change, the advent of powerlooms in Banaras, I ask how it changes the meaning of authenticity. The practice of selling powerloom-made saris as handloom-made has instigated attempt to formalize the definition of what exactly is a Banarasi Sari. The formalization is being attempted via a GI issued under the name of “Banarasi Sarees and Brocades.” The GI sets out detailed conditions a product must meet in order to qualify as authentically Banarasi so that producers “passing-off” imitation products can be legally prosecuted. The GI is one of a large number of governmental and non-governmental interventions in an industry that has been ailing for over a decade. Although the crisis does not affect everyone equally, most industry insiders agree that the industry has seen better days. Interviews with weavers, masters, merchants, NGOs and State officials reveal a large number of possible causes which I discuss briefly in Section 3.3. The GI is specifically intended to act as a deterrent to machine-made saris from Surat and China as well as powerloom saris made in Banaras (though there is some ambiguity on this last point as I discuss later), which are being sold in the market as “Banarasi Saris.” Given the relative ignorance regarding the GI especially within the industry but also among consumers, and given the formidable unsolved problems of implementation, one may argue that the GI will have no visible impact on “business as usual” for some time to come and hence is not worth paying attention to. However, I believe this would be a mistake. As the first collective IPR to be applied to artisanal knowledge on such a large scale, it deserves close attention.

The data for this study are largely in the form of field observations and interviews. In addition to ordinary weavers and master-weavers, the following individuals were interviewed. Three NGO workers: Dr. Rajni Kant, the head of Human Welfare Association, located in Sarnath, which is a co-applicant for Geographical Indicator (GI) Patent to the Banarasi Sari; Dr. Lenin Raghuvanshi, head of the People's Vigilance Committee on Human Rights (PVCHR), Pandeypur, which has worked extensively to document malnutrition and suicide cases among weavers; and Deepti Singh, project coordinator for the Varanasi Weavers Project of the NGO Upasana, which gives work to around 120 weavers and sells the product abroad. Interviews were also conducted in the offices of the Additional Director (AD) of Handlooms and the Weaver Service Center. Both offices come under the Development Commission for Handlooms (New Delhi) and are also co-applicants of the GI. Based on these data I suggest that the simple question "What is a Banaras Sari," or what makes a fabric authentically Banarasi, has no easy answer. It is, however, a productive question because it allows us to ask a series of more important questions such as, where should the criteria of authenticity lie? Are such criteria possible within a lokavidya universe? Or are they peculiarly a product of formal knowledge systems?

The remainder of this chapter is organized as follows. Section 4.2 gives a background to the question of authenticity and discusses how the GI formalizes it. Section 4.3 traces how the powerloom has changed the Banarasi Sari. Section 4.4 analyzes the GI issued to the Banarasi Sari and also analyzes its possible impacts as well as its shortcomings. Section 4.5. concludes.

## **4.2 Creating Authentic Craft Practice via IPRs: The Geographical Indication in India**

### **4.2.1 Why Authenticity?**

India is home to a large number of artisanal traditions in textiles, food products, household consumer goods, jewelry and so on. In addition to the millions working full-time in the artisanal sector, peasants often undertake such work in addition to their other duties. The academic and policy literature on artisanal industry has long recognized its employment potential, but more recently protection of authentic craft knowledge has become an important theme in the literature on traditional crafts (Liebl and Roy, 2004). Protection is often justified on the basis of a need to preserve cultural diversity in the face of homogenization brought about by globalization. But there are political-economic reasons, also. To understand why authenticity is an important issue in craft production we have to appreciate the place that artisanal production occupies in the global economy. Before the advent of mass-produced consumer goods both elite and mass markets were supplied by what is defined here as artisanal production. That is, small-shop production with shallow hierarchies between control and execution and shallow technical division of labor. Artisanal production could only sustain a low production-low consumption lifestyle. In such an economy durability not novelty was a virtue. To make up for the lack of demand resulting from durability, the artisan had available to her the mass market especially in clothing, food, utensils and other household goods (industries which still employ the largest number of artisans in India). Notice that describing both local mass markets and long-distance or luxury markets as being supplied by artisanal production need not imply that the same producers supplied both markets. Class societies typically gave rise to a stratification of artisans as well. But as the mass market is being gradually lost by artisans to mechanized and large-scale production, artisanal products are becoming restricted only to niche or elite markets. Although even in the pre-modern

and early modern periods, global trade in handmade goods for luxury markets was well-developed, the destruction of domestic mass markets increased the importance of global niche markets. On the other hand it destroyed the basis of livelihood of much larger number of artisans who did not supply elite markets. Figure 4.1 shows one way to conceptualize the place of craft in the global market. The movement from the bottom-right to the top-right cell is the story of artisanal production.

**Figure 4.1.** Typology of production and consumption regimes.

Production	Factory	Artisanal
Consumption		
National or Global	National and global brands in automobiles, food and clothing.	Craft items sold in national and global markets as niche products
Local	-	“Traditional” mass market for food, clothing etc. produced in artisanal industry.

The global consumption of artisanal goods was facilitated by the advent of the information and communication revolution and artisans across the world began searching ever more keenly for the El Dorado of export markets. Of course this sometimes entailed an adjustment to a different aesthetic sensibility, more suited to the urban market. As Bhatt (2006, p. 154) notes, in the context of women embroidery workers working with the Self Employed Women’s Association (SEWA),

The demands of the outside market were often incomprehensible to the women. They were used to stitching what they liked, using traditional patterns on thick fabric, using stitches and colors that pleased them. However, orders were placed by an urban market, which demanded paler colors on finer fabric. “My hands refuse to do that kind of embroidery. Such sickly *angreji* [foreign] colors.!” some complained. When they rebelled

and added a touch of bright color or a favorite motif to their work, their piece was rejected.

Such situations are created as a result of the fact that this articulation of craft production into the global economy is often driven by a demand for what might be termed the “contemporary primitiveness” of craft, something that belongs to a past, more innocent age, deserving of our (western/urban consumer) support, but is also in fashion today.<sup>1</sup> Of course artisanal production, like any other production for the market, has always shaped itself according to the nature of the demand. But the specific global/urban demand for authentic traditional crafts can often be disjointed from the contemporary aesthetic of the craft producers. Venkatesan (2009) recounts one such incident. Fatima, a mat weaver from Pattamadai, Tamil Nadu, decided to weave what she considered a “special mat” for a craft awards competition in Delhi. She chose to weave a picture of the Taj Mahal in bright colors (pink, green blue) on the mat. The mat did not win an award and the head of the Tamilnadu State Handicrafts Emporium commented on it as follows: “who would pay money for that! It is too modern and bright, not like an authentic Pattamadai mat.” (p. 136). After recounting one more similar story, Venkatesan concludes that “the craft weaver’s own aesthetic is disregarded when it does not conform to this larger vision of what the craft object ought to look like.” (*ibid.*, p. 137). Since the use-value and hence the demand for the artisanal commodity is as much based on the consumption of culture, as the consumption of the commodity itself, niches can only be maintained as long as the product appears to be “authentic.”

Cultural Anthropologists in their studies of “traditional communities” in Africa and the Americas, have theorized authenticity. In his work on mass-produced “tourist art” in Africa, Steiner (1999) finds that the criterion important for consumers to con-

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<sup>1</sup>What one Indian craft developer calls “traditional yet contemporary” (Venkatesan, 2009)



sider art authentic is not its originality but rather the lack thereof, i.e. the quality of looking identical to other mass-produced objects which fit the stereotype of “authentically African art.” Partly on the basis of Steiner’s work and partly drawing on his own work on Nicaraguan pottery, Field (2009) identifies four kinds of authenticity of which two are relevant for most craft-based industries, ethnographic authenticity and brand-named authenticity. Objects are considered to be ethnographically authentic if:

...they accurately represent a bounded, named culture, cultural group, or cultural identity. The identity of the individual who actually made the object is inconsequential, because the object is supposed to represent the culture in question irrespective of who made it ...[and] the differences between individual objects in the particular category in question are permitted to vary in appearance only in very narrow and predictable ways.

Using this terminology we might say that Fatima’s mat did not possess the quality of “ethnographic authenticity.” Of course this very method of creating authenticity also creates scope for imitation. For example, since “everyone knows” what an “authentic Navajo rug” looks like, the appearance can be easily mimicked in China. Indeed several “Native American” artifacts sold to tourists in the United States are produced in China, the Philippines and other Asian countries.<sup>2</sup> Hence in order to capitalize on it, this type of authenticity must be converted into brand-name authenticity with legal protection, which is where the GI comes in.

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<sup>2</sup>Fowler (2004) recounts an interview with Andy Abeita, president of the Council for Indigenous Arts and Culture, in which Abeita reveals how a corporation and a town named “Zuni” (a Native American nation) were formed in the Philippines. Goods manufactured in this town were sold in the United States with “Made in Zuni” stamps. Abeita also notes that in most cases it is Americans who take the design overseas to reproduce them cheaply, and to smuggle them back as originals.

### 4.2.2 The Geographical Indication

In Chapter Two, it was alluded to that the GI is a type of collective IPR that has been in much favor recently to protect TK/IK. We now take a look at the GI in more detail. The official definition according to the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs Article 22.1) is that GIs are

indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.

To illustrate with the help of a famous example, tea can be sold as “Darjeeling” or wine as “Champagne” only if they actually originate in these regions of India and France, respectively. Although the definition suggests that such an IPR would be relevant only for agricultural products (such as tea, rice, wine, mangoes, etc.) in fact, as we will see later, the “reputation clause” has been used extensively in India to confer GI protection on manufactured goods whose fame is tied to being produced in a specific region not because of natural geographical factors but rather due to human factors such as the presence of a craft tradition. Of course, the geographical origin of a manufactured good has long been a marker of its quality. Shawls from Kashmir and Dacca muslin come to mind. The GI grants this relationship a formal, legal status. The economic rationale of the GI is the same as that of a trade mark or a certification mark. The information asymmetry between buyers and sellers is reduced through a signaling device (Das, 2009). It should be emphasized that a GI does not confer legal protection on the knowledge itself, rather it grants producers in a certain geographical region the exclusive right to use a brand name (and a logo if one exists).

In India *sui generis* legislation was passed in the form of The Geographical Indications Act (1999) as a part of the effort to have intellectual property laws be

compatible with India's obligations under TRIPS.<sup>3</sup> The GI Registry which receives applications, examines them and awards the GI, is based in Chennai at the office of the Controller General of Patents Designs and Trade Marks. As an aside, as with other efforts to harmonize IPR laws across countries, this one too is likely to be of greater use to developed country producers who are anxious not to lose monopoly rents in emerging markets and to stop counterfeiting across the world. Developing countries in general lack the resources to monitor and challenge IPR violations across the world though important exceptions do exist in this regard. For example, in the past ten years the Indian government has successfully pursued infringement cases for Darjeeling Tea and Basmati Rice.

As mentioned earlier, craft industries are important from the employment point of view. The economic significance of creating IPRs in artisanal knowledge lies in the possible improvement in livelihoods of a large number of artisans. But craft knowledge is usually collectively owned by an artisanal community, in the Indian case usually defined as a caste. It is not the property of individual producers. The knowledge also tends to have a strong local dimension. Hence the GI is thought to be ideally suited for the purpose of granting legal protection to this knowledge. Dagne (2010, p. 84) notes that "reputation" with respect to GIs is mainly related to the history and historical origin of the product, an attribute more attuned to products of traditional knowledge. Das (2007) enumerates the reasons why GIs are more suitable for protection of TK than other types of IPRs:

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<sup>3</sup>The formalization of this relationship between product and place has taken place in different contexts in three international arenas: the Paris Convention for the Protection of Industrial Property (1883), the Madrid Agreement (1891) and the Lisbon Agreement for the Protection of Appellations of Origin and their International Registration (1958). The most recent international agreement on this issue, which also introduced the term Geographical Indication for the first time, is the WTO Agreement on Trade Related Aspects of IPRs (TRIPS). The earlier agreements had a very small number of signatory states. The wide geographic reach of TRIPS via the WTO process makes it the most wide-reaching treaty on this matter.

Knowledge remains in the public domain: No institution (firm or individual) exercises exclusive monopoly control over the knowledge... Rights are (potentially) held in perpetuity... All enterprises fulfilling the conditions specified in a GI have the right to use the indication but do not have the right to authorise use to others.<sup>4</sup>

A GI is supposed to achieve two objectives. A “defensive” objective is to prevent imitation by other communities or producers and thus to retain or recapture a market share and the “positive” objective is to garner a premium that consumers may be willing to pay for “the real thing.” In support of the latter objective, Das (2009) invokes the results for a 1999 EU consumer survey which showed that 40% of those asked were ready to pay a 10% premium for “origin-guaranteed” products (p. 3).

Since their inception as a part of TRIPS in the early 1990s, GIs have become increasingly popular among international development agencies, NGOs, governments, and academics as a means of protecting traditional knowledge (Dagne, 2010). Rangnekar (2010, p. 78) notes that

A striking example of how these interests in GIs overlap can be found in the United Nations Conference on Trade and Development (UNCTAD) India Programme, with the government of India as partner, and funded by the UK governments Department for International Development. Focussing on artisans, farmers and agrarian communities, the Programme has undertaken a road show on GIs that popularized the notion of GIs and subsequently facilitated the registration of a number of GIs.

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<sup>4</sup>Thus barriers to entry that are usually erected via caste norms are replaced by property rights reminiscent of land reform in Mexico that gave peasants use-rights for land but not sale rights (or purchase rights to outsiders). The required drawing and policing of community boundaries is the function of the GI.

Abhijit Das, Deputy Project Coordinator of the UNCTAD India project, explains the aims as follows:

Our motivation really is that there is a IP called GI which can help resource poor artisans and farmers in different parts of the country not only to preserve the heritage of their unique products number one, but to also to commercially leverage the GI protection through appropriate market strategies for improving their income. ... That is why UNCTAD India program has been intervening to facilitate GI registration of products in different parts of the country ... we have made interventions so far in 21 products ... (Field Interview, Abhijit Das, 2010\_06\_02).

The hope is thus that the collective nature of the IPR will ensure that “economic benefits of GIs extend to all individuals and groups in the community who subscribe to the traditional practices belonging to the culture of that community.” (Dagne, 2010, p. 101). Given the relations of production and exchange prevailing in artisanal industry, the question is can this “trickle down” process be expected to work?

As of May 2011, the Indian Government had awarded 236 GIs (the first one was issued in 2003 to Darjeeling Tea). Table 4.1 lists the number of GIs awarded under each of seven official categories, along with examples of products falling in that category.<sup>5</sup> As can be seen the majority have been awarded for manufactured goods (mostly textiles and handicrafts) and not for agricultural products. In fact, artisanal products (handicraft, textile and food stuffs) together account for 150 of 219 unique GIs (68.4%). This compilation from the GI Journal published by the GI registry, bears out Das (2010)’s observation that in contrast to European GIs, which have mostly been awarded to wines, spirits and other agricultural products, the Indian

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<sup>5</sup>Numbers will not add up to 236 because GIs awarded to foreign products (such as Champagne and Scotch) have been omitted, and GIs awarded separately to word name and logo have been counted as one.

GIs show a much greater diversity of products. Presumably this is because, in the European case, crafts industries have either disappeared or become formal capitalist or cooperative enterprises that ensure protection via trademarks and patents.

**Table 4.1.** Geographical Indications awarded under various categories from 2003-2011.

Category	Number	Example
Agricultural	55	Darjeeling Tea, Mysore Betel Leaf, Malabar Pepper
Alcoholic Beverage	2	Feni, Nashik Valley Wine
Natural	5	Krishna Godavari Gas
Handicraft	70	Lucknow Chikan, Kolhapuri Footwear
Textile	72	Banarasi Sari, Surat <i>zari</i> , Kashmir Pashmina
Manufactured	7	Mysore Agarbatti, Mysore Sandal Soap
Food Stuffs	8	Tirupati Laddu, Hyderabad Biryani, Bikaneri Bhujia

Source: GI Journal, various issues.

In knowledge terms, each GI marks a “lokavidya-commons” of an artisanal community. Conventional brand names (Louis Vutton, Gucci, Calvin Klein and so on) protect brand authenticity via a combination of private intellectual property and centralized control over production practices and designs (even if actual production is decentralized). In contrast, a lokavidya-based artisanal product, such as the Banarasi Sari has no such centralized control and until recently had no legal status. A widely dispersed and shared knowledge-commons that does not belong to any private entity lies behind such a product. But even if the practices are not formalized, as with large brand-name corporations, nonetheless for a technically sophisticated craft such as Banarasi weaving knowledge of designs, production etc. is systematically available to practitioners of the craft largely via apprenticeships and business networks. Staying within the framework of the existing property rights regimes a collective IPR seems a desirable way to grant formal, legal status to the informal knowledge-commons to which millions of livelihoods are linked. But who benefits and who loses from the new property right is determined by the way in which the formalization is undertaken and

the way in which new property rights are enforced. GI scholarship is still in its infancy and only a handful of writers are to be found exploring the formidable issues involved.

What little work exists on artisanal knowledge and GIs in India is concerned with issues of effective implementation to ensure that the premiums trickle down to the actual producers, and with enforcement (domestically and abroad), brand-building, and consumer awareness (Das, 2009). UNCTAD India has undertaken “post GI impact assessment studies” on products which have had protection for three to four years as a part of their GI initiative. They have found variable results, incomes of artisans rising in one case (Kota Doria handicraft, Rajasthan) but not in another (Sholapur Textiles). Mr. Abhijit Das attributes these differences to variation in post-GI brand building and marketing efforts (Field Interview, *ibid.*). But formalizing the geographical link and making it work is only half the solution to the problem of authenticity. It can prevent Chinese-made “Navajo rugs” or “Banarasi Saris” from being sold legally as such, but it does not answer the question what is an authentic Navajo rug or Banarasi Sari. As we noted earlier, the answer to this question can set artisanal producers against their urban patrons. The condition for participating in the global niche markets is that criteria of authenticity become external to the craft community and are delivered in a top down fashion. Thus in the case of the patent awarded to Banarasi Saris and Brocades discussed at length later, the GI does not only specify the geographical region, it also lays down production and design criteria. Producers are allowed to use the GI mark if they reside in a specific geographical area and meet pre-specified standards. While the question of overly restrictive standards has been raised in the GI literature and is discussed latter in the chapter, no studies in the Indian context have raised this question.

In the next two sections I discuss these questions in the specific context of the Banarasi Sari industry. Since the awarding of the GI was triggered at least in part

by the severity of the crisis in the handloom industry of Banaras, I first discuss in brief the origin and nature of the crisis, before turning to specifically to the issue of authenticity and powerloom-imitation saris.

## **4.3 Powerlooms and the Question of Authenticity**

### **4.3.1 The Crisis in the Industry: National and Local Context**

Much has been written in the popular press in the last five years or so about the ongoing crisis in the Banaras weaving industry. But reliable figures are hard to come by. Industry observers and NGO workers believe that tens of thousands of weavers have either left the trade to become rickshaw-drivers, vegetable vendors, carpenters and so forth, or have departed for powerloom weaving centers in Western India, such as Surat and Bhiwandi. Others, like Javed Bhai, have stayed within the industry but have largely given up weaving for other textile work. Hunger and malnutrition deaths among children have been documented as have suicides due to debt and poverty (Bose, 2007; PVCHR, 2008). There is some disagreement over the exact period of onset of crisis due to the fact that different products have been differently affected. Raman (2010) has dealt with this issue in detail and estimates that the industry has been troubled since the early 1990s though the crisis acquired full-blown proportions only by 2003 or so. But certain producers of high-quality niche goods have continued to flourish and will deny that there is any recession in the industry. Neither are all classes in the industry equally affected, as might be expected. As smaller own-work weavers have gone out of business and turned to piece-rate work, this has facilitated capital accumulation on the part of the larger master-weavers as well as wholesale merchants. With accumulated capital, masters and merchants have been able to diversify beyond traditional handloom saris to powerloom-made saris and dress material and computerized embroidery. The hardest hit are handloom job-work



and loomless weavers whose nominal wages are stagnant or have actually decreased in the past 5-10 years.

The prolonged recession-induced decline in living standards often prompts memories of happier days. Almost to a man, the weavers of Banaras recall better days in the past. But as Thompson (1963) describes for Lancashire and Yorkshire weavers, the memory of a “golden age” is quite compatible with a history of economic hardship. For Banaras, what little evidence is available from the late 1970s and early 1980s suggests that even during the so-called “golden period” of the industry, poverty and hardship were still the weavers’ lot. Pandey (1981) reports monthly wages of around Rs. 200 (varying from 150-250 depending on type of work) which amounts to Rs. 1800 in 2009 rupees. My survey whose findings were reported in Chapter Three yields a median figure of Rs. 2500 per month. While it is true that compared to prevailing wage rates in the informal sector at that time, Rs. 200 may represent a better wage than Rs. 2500 does today, Bismillah (1986), whose novel describes in the social realist tradition the economic conditions of the weavers in the early 1980s presents a grim picture of poverty and vulnerability on part of the job-workers and loomless weavers. This suggests that going beyond the current crisis, the economic condition of the weavers owes itself at least as much to the relations of production as it does to factors such as lack of demand, competition from machine-made products and rising silk prices.

The current crisis does not only result from an inability of the handloom sector to compete with powerlooms. Larger issues of national trade policy vis-a-vis China as well as “industry culture” of informal contracts, delayed payments, use of imitation *zari* (gold thread), sub-standard dyes etc. have all contributed to falling demand for Banaras products. While focusing mainly on the powerloom-related aspects of the crisis I will bring in other elements as necessary. The powerloom question has both national policy and local dimensions. The tripartite structure of the Indian textile

sector consisting of the centralized mill sub-sector and decentralized power and handloom sub-sectors was discussed briefly in Chapter Three. The rise of the powerloom sector at the national level forms the backdrop for the proliferation of powerlooms in Banaras. Several studies since the 1970s have attempted to explain the rapid increase in share of cloth production by powerlooms and the concomitant stagnation in the share of handloom and mill cloth (Eapen, 1977; Jain, 1983; Srinivasulu, 1996b). State policy favoring the decentralized sector over the mill sector, productivity advantages of power over hand, increasing intensity of capital-labor conflict in the mill sector, and access to a cheap labor-force in the informal sector have together conspired to bring about this result. Over the second half of the 20th Century, mills have steadily outsourced weaving to smaller units retaining spinning functions only. In the process they have taken advantage of an unorganized, low-paid labor force circumventing capacity restrictions on large-scale production put in place to benefit handlooms. Simultaneously, handloom weavers with enough capital have set up powerlooms to benefit from increased productivity. The 2009-2010 Ministry of Textiles Annual Report accounts for the decline of the mills as follows:

The weaving capacity in the organized sector, along with the number of composite textile mills ... has stagnated, because the past Government policy permitted only marginal expansion in weaving capacity in the organized mill sector. Even after the removal of restrictions in the Textile Policy of 1985, weaving capacity has been consistently declining. This is attributable to the structural transformation in the industry, leading to the de-linking of weaving from spinning and the emergence of the decentralized powerloom sector. (Government of India, 2010, p. 34)

Powerlooms have thus been the gainer in the State's attempts to protect handlooms from mill competition. Industry observers conclude that protective policy, such as reservations of certain articles for production on handlooms has had the effect of

spurring growth in the powerloom sector because early post-independence policy was phrased in terms of a “decentralized weaving sector” and did not distinguish clearly between hand and powerlooms. But it also seems to be the case that products reserved explicitly for handlooms have also been manufactured without hindrance on powerlooms (Srinivasulu, 1996b). The Handloom Reservation Act passed as a part of the New Textile Policy of 1985 reserved 22 articles for production only on handlooms, but it remained sub-judice for eight years, preventing implementation. Even after that, implementation has been difficult, and in 1999 the list of items was reduced to eleven. Handloom weavers in Banaras allege (and one powerloom weaver and long-time industry observer agreed) that even this list is not being enforced. Further, the 1985 Textile Policy marked a shift from an employment to a productivity based view and for the first time viewed the textile industry in terms of processes (spinning, weaving, finishing) rather than sectors (handloom, powerloom, mill) (Srinivasulu, 1996a). And finally, more recently since the late 1990s, encouraging a complete transition from hand to power seems to be the official position. Thus State support for handlooms has been less solid than it appears on paper. In opposition to the view that the handloom sector was able to survive only by means of State support, Roy (1989, 1993, 2002), who has written extensively on the issue, favors a story that emphasizes adaptation on part of the handloom industry by focusing on higher-value added product which were difficult to weave on the powerloom. It can be argued that handloom weaving in Banaras is a good example of this phenomenon. Banaras handlooms have maintained a niche based on use of multiple weft yarns in weaving (elaborated in a later section), a technique that is expensive to mechanize, but forms the traditional skill-set of Banaras weavers. However, it is also true that handlooms have “survived” because earnings have fallen to subsistence or perhaps even lower. Thus, in explaining the survival of handlooms, while the role played by State support

cannot be ignored, a more complete picture would have to include segmented markets and increased self-exploitation by artisans.

National trade policy has also been a major factor in the crisis in Banaras. Over roughly a decade from 2002 to 2010 duty levied on imported silk yarn (from China) remained at 30% while duty on imported silk fabric was reduced from 30% to 10% (Ministry of Textiles, Sericulture Division). Thus Chinese silk yarn, a key input to the industry, became expensive over time; the most dramatic increase being from Rs 1,750 per kg in August 2010 to Rs 3,300 per kg in December 2010. Emphasizing the need for imported yarn, Badruddin Ansari, the Chairman of the UP Handloom Co-op Federation, claimed that domestic silk yarn production is 16000 metric tons while the demand is 28000 metric tons (Field Interview, 2010\_06.11). Even as yarn became expensive, simultaneously Chinese silk fabric imports soared despite an anti-dumping duty having been in force during this period. Chinese imports increased four-fold between 2005 and 2010 (from about 400,000 meters to 1.6 million meters of silk fabric per day).<sup>6</sup> In the 2011-12 Union Budget customs duty on raw silk has been reduced from 30% to 5%. Banaras trader and exporter lobbies are urging the Textile Ministry to increase import duty on silk fabric to 40%. Banaras has fared poorly in competition with Chinese fabric and with more advanced powerloom centers in India such as Surat because these are far ahead in productivity and have also been able to free-ride on the reputation of the Banarasi brand. Master weavers and traders in Banaras have resorted to various cost-cutting strategies such as depressing wages, substituting synthetic fibers for silk, imitation *zari* for real *zari*, compromising on quality of the dye and passing-off powerloom saris as handloom.<sup>7</sup> The adoption of synthetic fibers that are easier to weave and less prone to breakage also facilitated

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<sup>6</sup>Weavers want hike in import duty on Chinese silk fabric, Times of India, March 15 2011

<sup>7</sup>One technique is to combine one polyester thread with two silk threads. This passes the “burn test,” i.e. burning the fabric to test for silk (Interview with Mr. Shukla, Weaver Service Center, 2010-04.13).

the introduction of powerlooms. Several respondents blamed members of their own community for damaging the reputation of the industry in the process. Thus far, no serious attempts had been made to deal directly with imitation Banarasi Saris. The awarding of Geographical Indicator status to Banaras Brocades and Sarees in late 2009 (Banaras Bunkar Samiti et al., 2009), can be said to constitute the first such attempt.

To make matters worse, basic infrastructure such as adequate electricity supply is not forthcoming in Banaras. Uninterrupted power is available only for four to five hours at a time and power outages lasting ten hours or so over the course of 24 hours are almost a daily occurrence. Only larger powerloom operators can afford their own means of power generation (typically diesel generators). Smaller powerloom workshops (owning ten looms or less) and almost all handloom workshops rely entirely on erratic municipal supply. Handloom workshops in the city are also reliant on power because dense settlements prevent natural light from entering adequately in many homes. Handloom advocates blame powerlooms for the electricity crisis as well claiming that “basements full of powerlooms” are illegally using domestic electricity connections precipitating shortages. Further, a policy that reflects the growing power of the powerloom weavers in Banaras is the issuance of a “fixed-rate card” which allows them to pay a flat rate of Rs. 75 per month per powerloom for electricity. Handloom weavers pay the full domestic rate which can exceed the fixed rate amount. Added to this are woes with regard to informal and easily reneged contracts, endlessly withheld or delayed payments, and post-dated checks operating as a system of expensive credit. Finally, the cooperative sector, set up by the state and central governments to facilitate procurement of raw material and marketing of finished products as well as to channel subsidies and aid to weavers, has been co-opted by the large traders and master-weavers. Government schemes for the assistance of ailing

weavers (of which there are plenty) are mostly collared by the dominant traders and mater-weavers, leaving nothing for the ordinary weaver (Ahmad, 2007).

I have recounted the foregoing to emphasize that imitation products are only a small part of the problems plaguing the industry. In particular the question of exploitation of weavers by masters and traders far predates the powerloom issue. Abdul Bismillah’s novel, alluded to earlier, presents a picture of Banaras that in class terms is hardly distinguishable from today, far before the “epidemic” of powerloom-imitation saris. It is clear that the GI can only be a small part of the solution, at best. However, as I argue in the next section, it may even run the risk of becoming part of the problem.

#### **4.3.2 What is a Banarasi Sari?**

In his influential essay on art and mechanical reproduction, Benjamin (1936) observes:

To be sure at the time of its origin a medieval picture of the Madonna could not yet be said to be “authentic.” It becomes authentic only during the succeeding centuries and perhaps most strikingly so during the last one.

That is, the question of authenticity arises at least in part out of the process of imitation. Thus the question of what the real Banarasi Sari is, has assumed importance only after powerloom imitation products became widely prevalent. In popular terms a Banarasi Sari is a high-end fabric to be worn as bridal wear or on other religious and festive occasions. It is made of pure silk (silk warp and silk weft) on a handloom, and has brocade embroidery. The last term requires some explanation. The specialty of the Banaras weaving tradition is mastery of the “extra-weft” technique described thus by DCHandlooms (2008, p. 3):

In regular weaving the weft thread passes over and under the warp thread regularly. But when brocade designs in gold, silver, silk or cotton threads are to be woven, special threads are transfixed in between by skipping the passage of the regular weft over a certain number of warp threads (depending upon the pattern).

The extra-weft may be introduced by throwing an extra shuttle from end to end, in which case a pattern like the one shown on the right in Figure 4.2 is produced, or by passing the weft yarn under the warp only in sub-regions of the warp, which produces localized woven embroidery (as shown on left in Figure 4.2). In popular and industry usage both these types of fabrics are called “brocade” though the techniques used to produce them are usually distinguished. In Banaras the two techniques are called *phekwa* and *kaDhwa* respectively and Cort (2010)<sup>8</sup> uses the French terms *lance* and *broche* to distinguish the two, the former meaning brocade produced by throwing an extra-weft end to end and the latter meaning extra-weft inserted in local regions. Since this distinction is important for our purposes, I will make use of these terms.

Broche is not reproducible on a machine and produces a qualitatively different product. This is the only weaving technique that does not give rise to unwanted connecting threads between motifs on the reverse of the fabric. Handloom weavers offer this as their unique speciality. Here the weaver manually inserts weft yarn between the warp at designated places to create a pattern. This manual insertion takes place after each throw of the shuttle. Complex patterns may require up to seven or eight different wefts in addition to the weft in the shuttle that along with the warp creates the base of the fabric. This process called *kaDhaai* (embroidery) in Banaras is the only one that has so far not been duplicated on the powerloom. But it is a technique that requires two workers, the principal weaver who works on

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<sup>8</sup>Though published by Fournier Press in 2010 Cort’s study is almost certainly of older provenance dating back perhaps to the 1970s. I have not been able to ascertain its original date of publication.

**Figure 4.2.** Examples of Banarasi brocades woven with broche or kaDhwa (left) and lance or phekwa (right) technique



Source: Field Photos.

the border on side in addition to throwing the shuttle, and a helper or assistant who works on the other border. This helper is often a boy between 10 to 15 years of age who is learning to weave. Figure 4.3 shows a sari being woven with this technique. In addition to the shuttle, two sets of five bobbins each can be seen with wound *zari* on them, one set next to the shuttle and one on the far side of the photo. These are passed manually between selected parts of the warp by the weaver and his apprentice (whose set of bobbins can be seen on top) to produce the pattern observed. It should be noted that the reverse side of the pattern is visible when the fabric is mounted on the loom.

Over time many aspects of production, design, as well as materials have changed even as the sari has retained its identity. For example, as mentioned briefly in the introductory chapter, the *jaala* gave way to the Jacquard, in what was at the time (the early 20th century) a major shift in the technique of producing patterns using supplementary weft yarn. Interestingly a government report in the 1950s cited the hand-operated Jacquard mechanism as an example of “timelessness” of the craft though it had been introduced only thirty years earlier (Dutta, 2007). Over time the use of real gold and silver in *zari* declined and imitation *zari* (using silverized copper



**Figure 4.3.** A weaver and his son (apprentice) weaving jangla design using broche technique



Source: Field Photos.

wire) became the norm, especially since the 1970s (interview with Ateek Ansari). And more recently, a cherished aspect of the sari, that it was made of pure silk (silk warp and silk weft forming the ground), also changed to accommodate high silk prices. Silk is now frequently blended with synthetic fibers such as viscose or nylon, even on handlooms, to reduce production costs. In terms of weaving technique, broche supplementary weft technique gave way to the relatively easier and faster lance. In all these changes the constant factor is the use of patterns and design motifs that are generally recognized to be Banarasi. The basic design motifs, the *kairi* (mango), *buti* (small florals), *buta* (large florals), and *bel* (vine) are robust in the sense that they allow for infinitely many small variations to create newness while retaining the core identity. They also allow for changes in taste over time from more intricate to simplified patterns (Cort, 2010).

All those who were interviewed, weavers, masters, merchants, and designers, agreed that designs made using the kaDhwa (broche) technique were superior to those made with phekwa (lance) and that the only products still doing well on the handloom were the ones which used this technique. All the designs that require only one person to make them (i.e. designs made by throwing the shuttle only) are easily duplicated on the powerloom.<sup>9</sup>

This technique, which handloom weavers see as their last defense against the machine, is endangered today due to child labor laws. The Child Labour (Prohibition and Regulation) Act of 1986 regulates industries which employ children. The law has substantial penalties for violators, including fines and imprisonment. According to the letter of the law, “children working in the family home where specialized crafts are passed from one generation to the next”<sup>10</sup> are exempt. But weavers in Banaras and surrounding rural areas complain that the law as it is being implemented does not make the distinction between children employed in others’ workshops or homes and children being trained in their own homes. This issue came up during a conversation with some rural Hindu weavers at a meeting of the Banaras Bunkar Samiti (BBS), a weaver self-help group started by the NGO Human Welfare Association (HWA). BBS and HWA are also among the agencies which applied for the GI.

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<sup>9</sup>Javed Bhai elaborates:

Saris like “jangla” or “jaamdaani,” which cost Rs. 5000 and up, they have woven embroidery on the entire sari. There is no need for cutting [unwanted threads from the reverse of the fabric] but it needs two people ... The saris which are doing well on handloom are these saris, the others which need only one person to make them, have all gone to the powerloom. Earlier brocades were made on handloom, now the Pick-N-Pick machine has taken over that work. (Field Interview 2010\_02.03)

A master-weaver who exports to the UAE notes

The pick-n-pick loom has started making brocades, but the work that requires hand embroidery, jangla, buti, aaDaa, this the pick-n-pick machine cannot make. The handloom fabric is more durable, the powerloom will make the designs by throw-shuttle method and when the unwanted threads are cut, the design can unravel. (Field Notes)

<sup>10</sup>Carpet Export Promotion Council, <http://www.indiancarpets.com/node/4>

The Government has stopped child labor. The sari trade is such that without a boy at the side work cannot be done. New children are not entering the trade. The work that can be done by one man doesn't do as well [in the market]. Since the time the Government prohibited child labor the sari trade has fallen even further.<sup>11</sup> (Field Interview 2010\_04.28)

The discussion moved to the example of a weaver who has been embroiled in litigation for fifteen years because he was caught under the child labor law. A second weaver noted:

My brother was also caught but we resolved the matter right then. His son was working in his own house on his loom. We took the school enrollment papers etc [to show the officials that the children are in school]. If it was someone from outside then we would understand, but these were our own kids. Even then we had to pay 5000 rupees. (Field Interview 2010\_04.28).<sup>12</sup>

During another field visit, this time to the village of Bhartra near the Lohta area of Banaras, several of the weavers interviewed spoke of problems with implementation of the child labor law. In the following conversation, there are three rural Hindu weavers present, here labeled W1, W2 and W3.

W1: Since the government started arresting people in this matter there is no income at all in weaving.

Q: Why?

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<sup>11</sup>As an aside I note that the term used by this weaver to refer to child labor is “baal vyaapaar” which means child trafficking, though the context makes it clear that he is talking about child labor. Child trafficking is a important NGO theme and this confusion also indicates the problem of translation between the Government-NGO discourse and the artisan communities.

<sup>12</sup>A woman listening to our exchange spoke up noting that fourteen-fifteen year old boys are working under the National Rural Employment Guarantee Scheme (NREGA) as well. Why does the government not send anyone to stop this?

W1: Because, when boys used to be able to work we could make designs that need two people, like embroidering the *bel* and *buti*. Now one person cannot do it all by himself.

Q: So you have to have a helper?

W2: Yes.

W1: When this happened, one person designs were only left, they pay less.

W2: So wages are low and we don't even have the wherewithal to educate the child. Education is so expensive today.

Q: But in the city even now people [are employing children].

W3: Yes they are still doing it, but they hide the fact.

W1: The thing is that if I am weaving lets say, and someone comes and catches me with a boy, where will I bring Rs. 10,000 from? So I say, its okay even if I earn less.

Q: So only simple designs can be made now?

W1: It may be simple or complex, the thing is it will be made by one person, by throwing the shuttle (lance) not by embroidery (broche). And if it is made by throwing, the connecting threads will have to be cut, this will reduce the integrity of the design. It might unravel.

Q: So broche cannot be done by just one man?

W1: Well, it will take very long, the wages will not justify that kind of time. (Field Interview 2009\_12\_29\_1)

Those familiar with the conditions on the ground are aware that the law has had such unintended effects. Mr. Shukla, the Director of the Weaver Service Center in Banaras and Ms. Deepti Singh, a Project Coordinator for the "Varanasi Weavers' Project," run by the NGO Upasana, both pointed out that formal schooling was not incompatible with craft apprenticeship at home. The former even went so far as to

say that the government could put pressure on those workshops who employ children to also engage a teacher who could teach reading, writing and arithmetic for part of the time that the children were in the workshop. Since everything except the broche technique is being mimicked on the powerloom and since the enforcement of child labor laws has made the use of this technique risky, handloom weavers, especially in the rural areas, feel that all avenues to earn an income based on their skills in weaving are now closed to them.

Today a consumer who visits one of the hundreds of retail showrooms in Banaras, desirous of buying a “Banarasi Sari,” can be sold one of four major types of fabric under this label. It may be hand or power-made and made of silk or blend/synthetic yarn. Within each of the four categories, one can further differentiate according to the type of embroidery, whether it is woven into the fabric as with traditional saris or done post-weaving (needle-work). Which of these is the real Banarasi? The GI gives one answer to this question, which I will discuss in the next section. When asked, weavers generally mention silk yarn and handloom technique as markers of authenticity. In addition some mention brocade (woven) embroidery. But that is by no means the only response. One master-weaver who sells both handloom and powerloom products nationally and internationally chose to answer this way:

Q: What is the identity of the Banarasi Sari?

A: It has a natural look, the person comes alive in it. Between mill cloth and this cloth, the difference is night and day.

Q: Is this because its made of silk, or because of the designs...?

A: Silk of course, but there is a craftsmanship (karigari) in Banaras, silk plus weaving. Even China can make silk, plain as well as design silk, but they did not succeed in mimicking the craftsmanship of Banaras. The pick-n-pick [powerloom] has also been developed a lot in Banaras. Since

the powerloom has come to Banaras, we have given a lot of thought to developing it. (Field Notes)

The master-weaver's response could be conditioned by the fact that he has made a fortune in powerlooms, but it is significant that he chooses to focus on the design element. The relative ease with which fabric made on powerlooms or with synthetic yarn or both can be passed-off as Banarasi suggests that the most recognizable markers of "Banarasipan" (Banarasi-ness) are the design motifs on the fabric. The two other signals of authenticity, silk yarn and handloom technique, are not always easy to identify for the ordinary consumer.

#### **4.3.3 Impact of the powerloom on the Banarasi Sari**

I mean "impact" in two ways. One, the impact on handlooms, and two, the impact on the product itself. Although no definitive records are available, according to industry insiders the powerloom was introduced in Banaras in the 1970s and started to spread rapidly in the early 1980s, the same time that powerloom sector experienced fast growth at the national level. In Banaras, it is mainly master-weavers who have installed powerlooms with capital accumulated in handloom production. During the course of my interviews, I found two major narratives regarding the rise of powerlooms in Banaras. One lays stress on the diversification of powerlooms from producing plain fabric to what was traditionally considered handloom territory, the production of embroidered fabric, i.e. saris with patterned body, border and *pallu*. Ateek Ansari, a long-time industry observer, journalist and powerloom owner, describes it thus:

Technology was developing, first the dobby machine came on PL and small designs started being made, small borders etc....the [handloom] co-ops complained to the government that handloom will suffer because of this. As a result, in 1985 the Handloom Reservation Act was passed wherein 22 items were reserved for manufacture by handloom and were banned

on powerloom. There was a fight [between handloom and powerloom weavers] regarding this too, but not a serious one because the law wasn't implemented well anyway and it didn't stop people [from making the banned products on powerloom]. After dobby came the Jacquard. Now all the things started being made [on PL]. (Field Interview 2010\_06\_07)

The designer who, in Chapter Three, described the apprenticeship methods for us, also owns powerlooms and he put forth a similar account:

The powerloom has been in Banaras since a long time but it has really become successful in the last ten years. Before that only plain cloth, simple designs, maybe one or two varieties, plain checks etc. were made. Today there are so many items even I cannot keep track of them. Saris are being made, dress material is being made. (Field Interview 2009\_12\_23.3)

Further, this narrative goes, not only did powerlooms start producing imitation-Banarasi saris, but they were passed off as handloom saris.

The powerloom has affected us a lot. They sell machine made saris as Banarasi, they tell the customers, it is pure Banarasi. The customer doesn't know the difference. What we weave with our hands, that is real Banarasi. The same design is reproduced on the machine, say if it costs us Rs. 1000 to make, then they make it for Rs. 300-400. The customer is attracted to the low price but he doesn't know which is the pure one. (Field Interview 2010\_02\_22.7)

The foregoing testimony is typical of several more I was witness to, particularly from struggling handloom weavers. In contrast to this narrative which portrays the powerloom as the villain, the second narrative regarding the rise of powerlooms emphasizes that the Banarasi handloom industry was facing problems related to lack of demand due to changing fashions since the 1990s. Competition from Surat and China further

added to the industry's woes. Larger master-weavers and merchants, who had the capital necessary, adopted powerlooms in order to compete more effectively. The expansion of the powerloom sector in Banaras gave employment to weavers who were being made redundant due to lack of demand for handloom products. Those who advance this narrative tend to be powerloom weavers and also tend to emphasize that to be against powerlooms is to be against technical progress. This narrative of technical progress was offered by a retired powerloom weaver (who started his career in handlooms):

People think that the handloom has failed because of the powerloom. That is not the case, it is a mistake to think that. See, in the past there was the bullock-cart, today there is the auto, now if someone wants to travel by bullock-cart people will call him a fool. He will reach late and it will cost more. (Field Interview 2009\_12\_23)

Of course the two accounts are not mutually exclusive and indeed there seems to be some truth in both versions.

Despite a large number of news reports and stories on "the powerloom problem," there exist no reliable sources of local statistics on the number of looms operating in Banaras or the proportion of cloth in the market that is machine-made. The exact extent of passing-off (i.e. presenting machine made fabric as hand-made) is also unknown, but the common perception is that it is rampant. No official surveys or statistics exist, in part because the bodies which are most favorably placed to gather such data, the handloom producer cooperative societies, are themselves implicated in passing-off (DCHandlooms, 2008). Some store-owners openly admit to the practice. A proprietor of a sari showroom in the tourist-dominated area of Sarnath told me that while he buys saris directly from handloom weavers in the surrounding towns, he also buys from Surat and Andhra Pradesh. He admitted that they sold powerloom cloth as handloom ("we say it is handmade") adding that customers usually cannot



differentiate between the two (Field Notes). He also noted that the town of Mau is a major source of powerloom saris sold in Banaras as Banarasi Saris. On interviewing master-weavers in Mau, I discovered that machine made polyester cloth from Mau goes to Banaras where it is embroidered to give it a “Banarasi look” (discussed in more detail below). One of the master-weavers in Mau handed me a business card which said “Rahman Enterprises for Handloom Saris” (name changed) though he dealt mainly with powerloom fabric. That said, it is not necessary that all machine-made saris which mimic the handloom Banarasi look are sold explicitly as “handloom saris.” They may only be sold as “Banarasi” leaving the handloom part implied. A powerloom sari sold as a handloom sari is a forgery, but a powerloom sari sold as a Banarasi Sari may not be thought of as a forgery depending on the definition of “Banarasi” being employed. Though, of course, it free-rides on the reputation created by the handloom. Interestingly, weavers, especially the job-workers, sometimes explicitly defend themselves saying that they do not pass powerloom as handloom or synthetic fabric as silk and that it is the master-weavers and merchants who take the decision to do so. My interviews suggest that weavers are far more concerned about cheating and bad faith, which they say damages the reputation of the industry, rather than the actual change in fiber or technology, which they regard simply as exigencies of craft practice. In other words, they do not show a desire to preserve a craft for its own sake, but dishonesty bothers them.

In general we may distinguish broadly between two types of powerloom-made Banarasi saris, those that have some aspect of their manufacture in Banaras, either being woven on powerlooms in Banaras by ex-handloom weavers or being embroidered in Banaras after being woven in Surat, Mau or China, and those made entirely outside Banaras.<sup>13</sup> Here I restrict my remarks to the former kind. As more and

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<sup>13</sup>It is also important to note, as Roy (1998) observes, that the “powerloom sector” contains substantial diversity of techniques within itself. Computerized, shuttleless looms can be up to ten

more handloom weavers have turned to powerloom weaving, they have brought their imagination and skills to bear on the problem of mimicking the handloom look on powerlooms. One adaptation has been the use of silk yarn (mostly Chinese silk) rather than synthetic. Powerloom weavers speak with pride about producing silk-by-silk fabric on the machine. According to them, a powerloom is much easier to operate with synthetic fibers and the speciality of Banaras weavers lies in having the patience to work with silk which is prone to frequent breakage while weaving. The “handloom look” has been achieved on powerlooms in three different ways:

*Post-weaving embroidery:* Plain fabric is woven and post-weaving needle embroidery is performed either by hand or machine. This work is discussed further in Chapter Five. The result is not really comparable to the original handloom product and such saris form the lowest end of the market. For example, Figure 4.4 shows the mango motif as produced by woven embroidery (broche) on the right and post-weaving embroidery on the left. Even though this is only one comparison among the thousands that could be made, it seems to me, and Javed Bhai agreed, that post-weaving embroidery does not have the beauty and elegance of broche.

*Warp-mediated designs:* Banarasi motifs like *bels* and *butis* are woven with the help of a Jacquard, the difference from handloom being that the design is produced by means of multiple warps rather than via the weft yarn. This technique is compatible with vintage powerlooms. It cannot produce brocades (since there is no supplementary weft) but it can produce traditional Banarasi motifs like *buti* as well as coarser varieties of border designs. The technique also leaves unwanted connecting threads

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times faster than the second-hand Japanese looms of 1950s vintage commonly found in Banaras. “Pick-n-pick” machines can handle four different weft yarns and perfectly replicate the famous Banaras Brocade (fabric made with supplementary weft yarn using lance technique), as compared to the older looms which handle only one weft yarn. Finally the light powerlooms of Mau are little more than fly-shuttle handlooms fitted with a power mechanism. Machine made Banarasi saris can thus have very different technological and geographical provenance.

**Figure 4.4.** Examples of the classic mango (kairi) motif

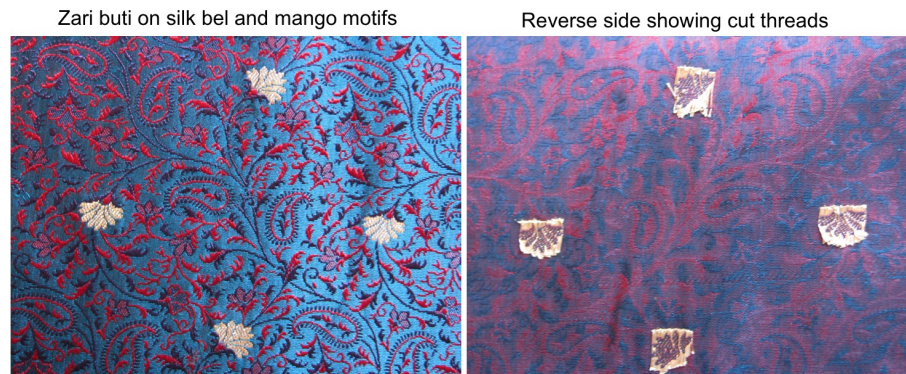


Source: Field Photos.

between motifs on the reverse side of the fabric, which need to be cut manually. This is the thread cutting work described further in Chapter Five.

*Weft-mediated designs:* The more advanced powerloom, the Pick-N-Pick loom, which can handle multiple weft yarns can be used to produce brocade patterns almost indistinguishable from those produced on handlooms using the lance technique. The Pick-N-Pick loom costs about twice as much as the older powerlooms of Japanese vintage and about ten times as much as a handloom. Whether produced on handlooms or the Pick-N-Pick loom, lance woven brocades also have unwanted connecting threads in need of cutting. Figure 4.5 shows a silk handloom sari with all over (tanchhoi) design and *zari* butis. The right image shows the reverse of the fabric where the cut threads are visible.

**Figure 4.5.** Example of buti motif with reverse side showing cut threads



Source: Field Photos.

With the advent of powerloom saris, especially for the lower-income end of the market, has risen the importance of post-weaving embroidery. Both types of embroidery described in Chapter Five, *naka-tikki* and *aari* are in great demand for powerloom saris. Javed Bhai, the principal informant we have met on several occasion, offers the explanation that powerloom-made saris, which have simpler woven patterns, are usually in need of some post-weaving enhancement to make them look festive while a handloom sari needs no such enhancement because of the complex woven embroidery. In the process, the Banarasi market has split into a high-end dominated by handloom fabric with woven embroidery and a low-end dominated by powerloom saris with post-weaving embroidery work. There are of course gradations between the extremes. A recent study on the Banaras weaving cluster commissioned by the Development Commissioner (Handlooms), DCHandlooms (2008, p. 5) laments that “heavy work” (i.e. post-weaving embroidery)

...is undermining the significance of exquisite weave in the traditional aesthetic consciousness. This shift from weave to non-weave ornamentation ... may not be temporary and poses a serious, long-term threat to the prospects of higher-end Banarasi saree.

Javed Bhai describes the two as *asli Banarasi* and *nakli Banarasi* (real and fake). But it is worth pointing out that in other conversations he has claimed Banarasi status for the same items he calls fake. Javed Bhai is one of the many handloom weavers who are in the process of transitioning into other types of textile work. One of his activities is to transform plain powerloom fabric made in Banaras or elsewhere (Mau, Khairabad, Surat) into “Banarasi” fabric. Here is how he explains this work:

Plain powerloom sari come to us and we put borders and patches on them.

Q: How do you do that?

A: First we stitch them on the plain fabric with a sewing machine, then we get it embroidered by machine, my hand and so on. If it was Rs. 15/ meter cloth initially, we may put patches on it from cloth worth as much as Rs. 60 per meter. If the original cloth was worth Rs. 200, the work done on it may also be worth another Rs. 200.

Q: So does this mean converting a plain sari into a Banarasi?

A: Yes that's right. Totally transform it.

Q: Is the cloth from Surat etc. silk?

A: No it's totally synthetic.

Q: Would you call that Banarasi too?

A: Wherever the cloth comes from, even if it's from China, once it is in the hands of the Banaras weavers, once they decorate it, it will sell as Banarasi handloom only. Yes, the designs and the method of work have changed. Synthetic yarn has come, but the hand is not synthetic is it? The hand is Banarasi! When the designer draws he will draw Banarasi designs.

When I asked him how fabrics with post-weaving embroidery, which look so different from traditional Banarasi brocades, could also be called Banarasi, his response was as follows:

The thing is that 90% of the people in Banaras are doing this type of work, only 10% remain on handlooms. So, if this is only work going on in Banaras, then what do you expect?

In other words Banarasi is what Banarasis (the people of Banaras) do.

#### **4.3.4 Is a Powerloom Sari a Banarasi Sari?**

So, *is* a powerloom-made sari made in Banaras a “Banarasi Sari?” Javed Bhai’s *sang froid* notwithstanding, it is difficult to get a clear answer from within the weaver community. In part this is because the transition from hand to power is happening today and every person’s viewpoint is shaped by their experience with the machine, without the benefit of hindsight. It may be relevant to note here that the introduction of the Jacquard mechanism in the early 20th century was, at that time, a substantial change in technique. Even though, as Dutta (2007) has shown, the mechanism was “retro-fitted” to adapt what was essentially a powerloom-based tool to the Banarasi handloom, it still made redundant the skill involved in transferring the design to the fabric. Before the Jacquard this was done by a person, usually a boy who was learning the trade. Though no primary sources are available, Dutta (2007) reports on the basis of colonial documents that the introduction of the Jacquard was met with resistance for several years, before it became generalized in Banaras. Of course it could be argued that the shift from hand to powerlooms is a larger or a qualitatively different one, but this can only be said with the benefit of hindsight. In fact there is no clear resistance to the powerloom in Banaras. Although handloom weavers do express the view, sometimes strongly, that the powerloom is displacing their livelihoods, they have demonstrated no concerted political will to push back. Indeed the more prevalent attitude seems to be “if you can’t beat ’em, its better to join ’em.” Though not everyone can do so, due to lack of capital. The result has been that the two sectors are highly intertwined. A single trader sells both hand and machine made products,

a master-weaver puts out work to handloom and powerloom weavers and a single weaver-household may possess both types of looms. While it is true that it is the large master weavers have adopted the powerloom in a big way, smaller handloom weavers have also traded their handlooms for powerlooms and are working on job-work (or more rarely own work) for the larger masters and merchants. Now, two decades later, the powerloom is so integrated into the Banaras textile industry that it is difficult to imagine Banaras without it.

From an economic perspective the decision to abandon the handloom and adopt the powerloom where possible is rational. When asked if he regretted leaving his craft behind, one handloom-weaver turned powerloom operator said matter-of-factly, “If it doesn’t give me enough to eat, what will I do loving it?”<sup>14</sup> A powerloom master-weaver similarly noted: “When he is hungry he won’t think, ‘this is my traditional occupation.’ On a full stomach you can remember all such things!” But we may still ask what such a decision says about weavers’ own notions of craft authenticity. Do they believe they are now producing a qualitatively different product undeserving of the name Banarasi? Those who wrote the GI application seem to think so, but as I argue later, the GI is not an outcome of community deliberations, but an attempt by NGOs to preserve a craft. This question has not been raised publicly among the weavers themselves. Defenders of the handloom say that this is because the powerloom lobby has grown so strong in Banaras that it will not let such a question be raised. And indeed Javed Bhai, even though he was skeptical of the institutions who wrote the GI applications, agreed that many small handloom weavers would welcome the exclusion of powerloom saris from the category of authentic Banarasi Saris. One reason that the GI is so clear, but a weaver is often not, could be that the former approaches the issue from the traditional knowledge perspective while the

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<sup>14</sup>The original Hindi carries greater rhetorical force: “peT nahi bharega to usse muhabbat karke kyaa kareNge?”

latter does so from the lokavidya perspective. Rather than concerning itself with what constitutes authentic craft practice, the lokavidya perspective emphasizes, as does Kasfir (1992) in the context of wood-carving and other crafts that these are

...seen as *a form of work*, not qualitatively very different from farming, repairing radios, or driving a taxi. This does not mean that it is not “serious” ...but that it is viewed matter-of-factly as aiming to satisfy the requirements set down by patrons. One does whatever is necessary to become a successful practitioner. (emphasis added)

Here the question of preservation of craft authenticity is moot. This does not mean that standards of production are absent or that imitation or adulteration are not frowned upon. But such standards and criteria are developed from the point of view of *work and livelihood*, not preservation of craft.

## 4.4 The GI and Criteria of Authenticity

### 4.4.1 “Banarasi Sarees and Brocades”

A campaign to “patent the Banarasi Sari” i.e. to issue a Geographical Indication in its name, was started in March 2006.<sup>15</sup> According to news articles of that time the motivation appears to have been to stem the competition from Chinese-made silk fabric being sold as Banarasi and to create a Banarasi brand name in the global market. A Geographical Indication in the name of “Banarasi Sarees and Brocades” (hereafter BSB-GI) was awarded in October 2009. The geographical area in question is not only the city of Banaras but five districts of eastern UP, viz. Varanasi (Banaras), Chandauli, Bhadohi, Mirzapur and Azamgarh. The application for the BSB-GI (Banaras Bunkar Samiti et al., 2009) outlines the product and production criteria in great detail. I discuss these later in the chapter. It is still too early to judge

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<sup>15</sup>The Times of India March 28, 2006



the effects and it should be emphasized that the vast majority of the people I spoke with in the period between December 2009 and June 2010 (including the owner of an old and prestigious handloom trading firm) were not even aware of the existence of the GI. It should also be noted at the outset that the GI cannot prevent the Banarasi technique from duplicated on the machine in Banaras, or elsewhere in India or the world. But if implemented properly, it can stop powerloom manufactured fabric from being *called* “Banarasi.”

As stated earlier, at the national level UNCTAD has taken the lead in selling the idea of the GI to local agencies and organizations as well as financing the effort. Abhijit Das of the UNCTAD-India Project described their approach as follows:

Our main aim is to motivate the community of producers to understand what a GI is, to get interested in the GI and to file the application for GI... There are many other organizations which have filed and have got a GI certificate for the product but this really has remained at a very superficial. Producers, artisans of the product, are really not aware of what a GI is, what is the importance of GI etc. Unlike other organizations which get a GI without involving the producers, we follow a different approach, a bottom-up approach. We don't file the application ourselves. We motivate, facilitate, empower the artisans to file the application. (Field Interview 2010\_06\_09)

For the BSB-GI, a key actor in the entire process from making the demand at the behest of UNCTAD, to writing the application and getting the GI was a local NGO called the Human Welfare Association (HWA) which works with a few thousand largely Hindu weavers in the villages surrounding Banaras but has no presence in the city itself. The Director of HWA, Dr. Rajnikant, told me that the financial support for the entire process came from UNCTAD-India: “You prepare the document, don't

worry about the money,' they said.” (Field Interview 2009\_11\_14). He admitted that initially he had to contend with his outsider status among the Banaras weavers:

For the GI we had to struggle for 2.5 years. Even local people in Banaras opposed us. They said “Who are Dr. Rajnikant and HWA to get the GI registration for BSB? We have been working for so many years, we are not applicants.” The GI officer told them, “who is stopping you from being applicants? This is a court, whoever files a petition will be heard.” But there were laboring under a myth. They thought this will become my property. They did not know that it is for all producers in this geographical area and that we are simply the petitioners. When they realized, they appreciated it and they joined. (*ibid.*)

The rhetoric of the bottom-up approach notwithstanding, a look at list of applicants for the GI does not inspire confidence that the document was the result of a community-wide consultation process. Rather it appears to be an initiative led by Governmental Agencies, NGOs and UNCTAD. The application was made by nine organizations, known in GI terminology as “Registered Proprietors.” These are Banaras Bunkar Samiti, Human Welfare Association, Jt. Director Industries (Eastern Zone), Director of Handlooms and Textiles U.P., Eastern U.P Exporters Association, Banarasi Vastra Udyog Sangh, Uttar Pradesh Handloom Fabrics Mktg. Co-op Federation Ltd, Banaras Hathkargha Vikas Samiti, and Adarsh Silk Bunkar Sahkari Samiti Ltd. Of these the first two are NGOs, the first being a self-help group set up by the second, the third and fourth are State agencies, the fifth and sixth are traders’ organizations and the last three are producer cooperative societies (including the apex body of handloom producer cooperatives in the State). This appears to be a broad cross-section of interest groups in the industry, but ordinary weavers, who have contributed most to the knowledge commons that the GI seeks to brand and protect, are missing from this picture. Though both HWA and BBS do work directly with

weavers, they only have a presence in the rural Cholakpur and Chirgaon blocks of Varanasi district and they work largely with Hindu weavers. The trader organizations represent the interest of the Gujarati and Marwari merchants in the sari wholesale business. And the producer cooperatives which should be the legitimate representatives of the weavers have long ceased to perform this role in Banaras. Although no scholarly work exists on this topic it is an open secret that the cooperative societies which were intended to benefit ordinary weavers have been completely co-opted by larger master weavers and often function merely as fronts for a putting-out operation. The fake co-op, whose chairman is a master weaver and whose “members” are either fictitious names or actual weavers who are often job-workers for the same master, is such a part of lore in Banaras that it even forms the center-piece of Abdul Bismillah’s novel (Bismillah, 1986). A further analysis of the nature and causes of dysfunction among the producer co-ops in Banaras is outside the scope of this study, but suffice to say that one of the two pre-conditions identified by Liebl and Roy (2004, p. 65) for the success of a GI, viz. “strong collective bodies at the local level,” seems to be conspicuous by its absence in the case of the BSB-GI. It follows that the criteria and standards outlined in the GI have been developed without substantial community participation. In the next section I explore the consequences of this.

In order to be able to make use of the GI mark legally, a producer must become an “authorized user,” that is, an officially recognized Banarasi Sari weaver. For this a legal application has to be made to the GI Court in Chennai (in South India) together with a letter of consent (or “No Objection Certificate”) from a registered proprietor. Again, Dr. Rajnikant:

Q: Where does the authorized user registration take place? Can it be done in Banaras?

A: No, in Chennai, where the GI head office is located. It is a court, so the application has to be filed by a lawyer, since it is a patent.

Q: And your letter will go in support of the petition/application?

A: Yes, not only support but also permission, because we are a registered proprietor. They will need a No Objection Certificate from us. There are nine applicants, if one issues a NOC and no other organization objects, then its okay. After we give the letter the court verifies the application and there is a hearing . . . first you have to prove that you work with handloom, maybe a photo ID, or if you are member of a coop etc. You need all the papers and affidavit, a power of attorney is needed. On the date of the hearing the advocate will present the case. If the judge feels there is a need to do a field visit he will, otherwise he will grant it. Then the authorized user becomes equally competent just like the registered proprietor in all aspects.<sup>16</sup>

In due course a BSB-GI mark and logo will also be developed, which can be placed on a fabric to assure the buyer of its authenticity. Will the smaller own-work weavers be able to acquire this status? What might be the consequences if they cannot acquire it? In the next section I explore these questions.

Moving from the process to the text of the application itself, one finds a document that faithfully catalogs current practice.<sup>17</sup> It first describes eleven types of fabrics (including saris and dress material) which are considered Banarasi. Although the text is entirely in English (a language that a negligible proportion of weavers can read), the local trade names, such as Jangla, Jamwar Tanchoi, Butidar and so on are used to identify types of designs. For each type of fabric the dimensions, the reed and pick (number of warp and weft threads per centimeter), the type of yarn and the type

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<sup>16</sup>Field Interview 2010\_4\_7. This account matches the procedure outlined in the The Geographical Indications of Goods (Registration and Protection) Rules, 2002 published in the Gazette of India, Extraordinary, Part II Section 3, Sub-Section (i) Extraordinary, Dated 8th March, 2002

<sup>17</sup>All GI applications are required to be published in the official journal of the GI Registry, known as the GI Journal. The issues of the journal are available here: <http://www.ipindia.nic.in/girindia/>

of weave are defined. Next an effort is made to describe the design or pattern in some detail. For example, the famous broche-woven Jangla sari is described as follows:

The border is 11.7 cms. wide including a selvedge of 0.7 cm. It consists of a central panel of 5 cm flanked by stripes of a plain line, parallelogram blocks, one line, a decorative panel, one line, parallelogram blocks and two lines in order, on either side, on a mauve ground. There is an extra stripe of a leaf and dot pattern, projecting towards the body. The central panel has a pair of leaves and a flower repeating, the spaces in between being filled in with floral butis. One of the leaves and the inner petals of the flower are in extra-weft silver zari worked by the kaDhwa [broche] technique and the rest in extra-weft gold zari woven by the phekwa [lance] technique. The extra weft weaves are twill, satin and floats. (Banaras Bunkar Samiti et al., 2009, p.34)

Similar definitions are provided for the body of the fabric and the pallu (anchal). I have quoted this at length to give a flavor of the design descriptions. Below I use this description to show that such a detailed formalization does not capture the actual fluidity of designs and may be a result of the fact the the application has been drawn up with the aim of preserving existing practice rather than allowing room for change.

#### **4.4.2 Powerlooms and the GI**

It is too early to tell what, if any, will be the impact of the BSB-GI. As mentioned earlier, almost all the weavers as well as master-weavers I spoke to during the course of the study were ignorant of it. One exception was Ateek Ansari, the powerloom weaver and industry observer and one-time journalist, mentioned earlier. But he had a bleak view of the possibilities:

The government is trying to use patent law to protect this industry. This shows the government's intellectual bankruptcy. It is like trying to keep

a tree alive by watering its leaves instead of its roots. It won't have any effect. When a product comes to the sales counter if a buyer likes it she will buy it, if she doesn't she won't. You are trying to save the product by patenting it, first let us look at the execution. Its impossible. Take for example Bhadohi's rug-mark that is supposed to tell you if child-labor has been used in making a carpet. It costs Rs. 20 to put this stamp. If it is there on a carpet it is free of child labor, if it is not there, then the carpet has been made from child-labor. The same thing will happen here. And then, the people who will implement it, the officials, do they have the wherewithal to tell if a fabric is from Surat or Banaras? We are from this trade, we also get fooled, what barometer do they have to tell fabrics apart? (Field Interview 2010\_06\_07)

Indeed the experience of other similar marks, such as silkmark and handloom mark do not inspire confidence. Dr. Rajnikant points out the Handloom Mark, which is two years older than the GI, has failed to take off in Banaras.

There are no more than 400 weavers registered in Banaras with handloom mark. not even 10 societies are registered . . . [recently] there was a circular that only those weaver cooperative societies who have been registered under the mark can participate in government sponsored exhibitions. No mention of whether the products they sell should also have those tags. 90% handloom weaver cooperative societies sell powerloom cloth! (Field Interview 2009\_11\_14)

One can anticipate that this will be problem with the GI also, since those producers who are best positioned to apply for and take advantage of the GI are often the same who have enough capital to own powerlooms.

Loomless and job-work weavers work for masters and have no control over how the product is sold. For them the benefits of the GI, if any, would be trickle-down effects

of an increased market share for their master's products. Those who are most likely to benefit directly from the GI in its present form, the small own-work handloom weavers, are unlikely to be able to undertake the registration process. Further, a disturbing possibility is that those producers who have not secured the "authorized user" status under the GI Act, either because they cannot afford the time and money that goes into the application process or because they lack information, will be in legal infringement of the GI if they call their sari "Banarasi." Although the wording of the GI Act does not indicate this to be a possibility, some comments to this effect have already appeared in the local press.<sup>18</sup> For example, during the meeting of the weavers belonging to the Banaras Bunkar Samiti, mentioned earlier, an article was read out to all present reporting on the GI awareness building meeting held at the Ramada Hotel (a five-star hotel) in Banaras. In the article Dr. P. Nayak, Director of Market Research for the Textile Ministry's Textile Committee is quoted as saying, "Only those saris will be considered Banarasi which have been made by producers who have the GI certificate." (Field Notes 2010\_04.28) When I put this question to Mr. Das, of UNCTAD India, I received the following response:

Q: What happens to those producer who haven't become authorized users but fulfill other conditions? Does it automatically extend to them?

A: If I stay in the area of Banaras and produce handwoven Banarasi saris and brocades, even if I am not a registered user, I still can use the GI tag, till someone legally complains ... of course there is no denying the fact that being a registered user ensures 100% legal certainty.

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<sup>18</sup>GI Act 1999, Section 22(1): A registered geographical indication is infringed by a person who, not being an authorised user thereof,- (a) uses such geographical indication by any means in the designations or presentation of goods that indicates or suggests that such goods originate in a geographical area other than the true place of origin of such goods in a manner which misleads the persons as to the geographical origin of such goods; or (b) uses any geographical indication in such manner which constitutes an act of unfair competition including passing off in respect of registered geographical indication.

The operative phrase in the response is “till someone legally complains.” The possibility cannot be ruled out that such a law provides an opportunity for malicious litigation and harassment. And in any case, without a strong community-based organization backing him a small weaver would have very little standing or capacity to deal with such litigation.<sup>19</sup>

If small handloom weavers are eligible in principle but unlikely in practice to benefit from the GI, the small powerloom weavers are excluded in principle since the GI only extends to handloom fabric. Those powerloom weavers who make plain cloth are not affected one way or another by the GI, but those who are making patterned fabric sold as Banarasi are liable to be charged with infringement of the GI. Or conversely they stand to benefit if the powerloom is given the same status as the handloom. Given that powerloom-imitation saris are being made by small as well as large weavers, the implementation of the GI within Banaras becomes difficult. Large weavers have political clout and small weavers may infringe out of necessity. The latter scenario presents itself in the case of the Handloom Reservation Act. One government official in charge of enforcing the act told me on condition of anonymity that in Orissa he encountered *gamchhas* (small towels) which were reserved for handlooms, being manufactured on powerlooms. There was fierce competition in the market for this product and profit margins were low. The producers were very poor weavers who did not have enough to eat. “How can I tell them it is a reserved product? How can I prosecute them for infringement?” In such situations, he said, he looks the other way.

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<sup>19</sup>Liebl and Roy (2004, p.64) note that

Crafts producers, asked about the possibility of obtaining redress from the courts for infringement of ownership rights on their products, will generally respond with a hearty laugh. Of the many dealers, manufacturers, and exporters we interviewed, not one expressed any optimism regarding the possibilities for legal enforcement of ownership rights. The problems affecting the entire system of legal enforcement in India are deep and widespread and are unlikely to be modified for the sole purpose of protecting crafts ownership.



Perhaps because of his awareness of this reality, the Director of the Weaver Service Center (WSC) in Banaras, Mr. Shukla expressed an opinion which surprised me. The WSC is one of the registered proprietors (original applicants) of the GI. I asked him what the criteria for inclusion in the GI were. Should it be made in Banaras and on the handloom?

No, I think powerlooms will also be included under the GI. The only thing is that it should be made in this area. And its texture etc. should be preserved. You cannot use polyester and call it silk. The Handloom Mark is specifically for handlooms. That assures the buyer that the product is authentically handmade. (Field Interview 2010\_04\_13)

Remaining within the ambit of certification marks, a dual system, as suggested by Mr. Shukla, which consists of a GI, which incorporates both hand and power produced saris (as long as they are made in Banaras), combined with a handloom mark which distinguishes between the two, may be a better solution. Such a scheme would be analogous to multiple certification systems such as “fair-trade,” “organic,” and region of origin used, among other products, for coffee.

To return to a recurring theme, lokavidya is shaped by the conditions of work and therefore by political economy. Attempts such as traditional knowledge databases and GIs try to “save” this knowledge without paying attention to the material processes which shape it. State policy (towards powerlooms, about child labor etc) creates powerful incentives for adoption of powerlooms. The GI does not change any of these factors, it only tries to create a niche for HL products. And it changes nothing with regard to the structural factors that keep weavers poor. In the process it can punish those weavers who try to compete by means of technical change, since they are told they can no longer avail of their product’s brand value. To make matters worse, this particular impulse to protect the handloom does not come from the weavers. It comes

from outside, from the custodians of craft who remove all criteria of craft authenticity from the midst of the artisan community.

#### 4.4.3 Whose criteria?

While discussing the Denomination of Origin (an IPR similar to the GI) granted to Native American Chulacanas Pottery of Peru, Anita Chan<sup>20</sup> relates an interesting incident. Speaking at a UN-sponsored conference on “Folkart, Innovation, and Sustainable Development,” and discussing the new Denomination of Origin, Peru’s National Director of Folkart emphasizes the importance of making a genuine “native product.” What makes for a native product? After asserting that artisans themselves will decide what their product is, she elaborates that such a product should use local, regional materials and integrate “ancestral” techniques in its elaboration and further the artisans ought to be committed to participating in national and international markets. If there is a contradiction between letting artisans decide what constitutes an authentic product and also simultaneously laying down the conditions for authenticity, the Director seems oblivious to it. As we saw briefly in the case of the mat weavers of Pattamadai the impulse to protect traditional crafts seems bound up with the desire to define what exactly is in need of protection. The insistence on “ancestral” or “traditional” methods and designs is reminiscent of the point Shiner (1994, p. 230) makes regarding the double standard for judging artisans as opposed to artists. Whereas, he notes, “foreign” influences on European artists are not only admitted but celebrated, the acceptance of foreign influences by the artisans of “traditional” societies is taken as a sign that their works are inauthentic.

As we saw earlier, the GI outlines both production practice and design specifications in great detail. It is possible that part of the motivation for this extensive formalization is the desire to make a strong legal case for the uniqueness of Banaras.

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<sup>20</sup>Personal Communication.

But for that purpose a historical account of its traditions would suffice. Such as rigorous standardization of existing practice seems unnecessary and can even hurt the evolution of the product. A piece of knowledge such as the Jangla design, which was described earlier, is a result of an organic process of innovation and small modifications over centuries. The description in the GI may match a typical Jangla sari produced today, but it is a static description that offers no indication that all the elements described may change over time even as they retain a “Jangla feel.” For example, the GI describes the jangla as using broche technique, which indeed it traditionally does. But even handloom weavers frequently use lance technique in making jangla patterns to reduce labor time and costs. In terms of artisanship and durability lance woven designs are inferior to broche designs, but to the untrained eye they do not look very different. Is a broche-woven handloom silk jangla authentic but a lance-woven handloom silk jangla inauthentic? Clearly, such fine distinctions are not useful given the purpose of the GI, but having been drafted in the spirit of craft preservation, it tends to go into unnecessary detail. The jangla description quoted above also specifies that floral motifs (flowers, vines, mangoes) characterize this type of pattern. Once again this is generally true. But what are called “figure” motifs in local parlance, that is animal shapes (like deer, elephant, peacock etc) are also found in jangla patterns. These motifs were more common around fifty years ago and are rarer today but can be found nevertheless and would be recognized as authentically Banarasi. The reason for the relative disappearance of animal motifs is Islamic revivalism among the Ansari weavers that gave rise to a movement claiming that drawing and weaving animal motifs is un-Islamic. As with designs, so with technique, the GI faithfully records existing practice describing the stages of the handloom production process in some detail. No explicit comment is made on how changes in production technique would be handled. For example, one may wonder what would have happened if the GI had been around at the time of the introduction of the Jacquard in Banaras in

the 1920s. Would it have defined the Banarasi Sari as the pre-Jacquard version and declared the Jacquard produced fabric to be non-Banarasi?

Not feeling compelled to formalize and define, and being aware of such fluidity, weavers tend to reply in vague terms when asked about criteria of authenticity. Beyond specifying one or two key ones like handloom production or silk warp and weft, they do not venture much more. And indeed to prevent passing-off, not much more seems to be needed than to assure the handloom origin and the type of fiber used. Beyond this why should the artisans be tied to the designs and practices of today? Prof. Jyotindra Jain, former Director of the National Crafts Museum and an authority on Indian crafts, warns that rigorous standardization of designs and materials could be detrimental to innovation. Further, he points out that designs and technical knowledge are a collective heritage and the large number of permutations and combinations of motifs that go into designs are difficult to register for copyrights or patents (Email Interview, 2011\_06\_26). The dangers of overly restrictive standardization have been raised in the literature on GIs (Das, 2010):

Quality control and enforcement calls for establishment of an effective regulatory mechanism, preferably comprising third parties. However, the flip-side is that stringent standardization and quality control may often end up imposing detrimental rigidities in the system, hindering its ability to accommodate innovations and experimentations in line with technological development as well as change in consumer tastes and preferences ... The challenge lies in striking the right balance between the two, which is easier said than done (p.164-165).

In general, due to its preservationist perspective, the GI over-valorizes “traditional methods” of production. Even though innovation and change are not precluded, there is danger that innovation will be punished if it is perceived by the gatekeepers of authenticity to dilute the real product. Or more likely, those changes to the product

will be allowed which suit the interests of the more powerful actors in the value chain. Bowen (2010) finds, in the case of Tequila, the Mexican liquor produced from Agave, that over time influential actors in the supply chain manipulated GI production standards and certification policies to benefit themselves and undermine the quality of the product. For example, larger tequila companies successfully lobbied the Mexican government to reduce required proportion of Agave in the liquor from 100% to 51% to the detriment of the small farmers who produce the agave. In other words, in the absence of formal criteria, if more powerful actors are able to take advantage by passing-off imitation products as real products, the manner in which formal criteria are being created may not solve any of these problems, but rather may create new ones by shutting out genuine producers on various pretexts. As one handloom weaver replied when asked about the prospects of the GI, “the powerful people [baDe log] are in powerlooms, the small people [chhoTe log] in handlooms, whose voice will be heard, you tell me? (Field Interview 2010\_02\_22\_7)

## 4.5 Discussion and Conclusion

I have tried to show in the foregoing pages that the question “what is a Banarasi Sari” is a difficult one to answer but a useful one to pose because it allows us to interrogate the notion of craft authenticity from the lokavidya perspective. Preservation of cultural authenticity is a primary value for elite consumers of crafts and certification systems such as the GI cater to this need, but producers may not see anything sacred in the existing product. In contrast to the detailed specifications of what constitutes a Banarasi Sari that the GI outlines, artisans themselves refuse to advance formal criteria beyond silk fabric and handloom technique and there is not universal agreement even on these basic points. Weavers appear to show concern for authenticity only in so far as it relates to higher incomes and larger market shares, not as a value in itself. One interpretation of why weavers in Banaras have no hesitation

in calling a powerloom sari “Banarasi” is that they are being dishonest and are only interested in profit. Another interpretation is that the meaning of Banarasi changes over time, there is no anxiety over authenticity, no desire to fix production techniques in time. And the two interpretations are not mutually exclusive.

What makes craft knowledge unique, from the *lokavidya* perspective, is not its “traditional” provenance but its relationship to the working class. The handloom is also of importance for this reason. While I have adopted an attitude of ambivalence towards the powerloom, neither embracing nor denouncing it, it is true that the powerloom stands in a very different relationship to the weaver. It is much less adaptable to his needs (though not completely unadaptable) and much less amenable to repair and modification by the weaver (though again not completely so). Weavers themselves, particularly powerloom operators, often complain of strenuous 12-hour shifts, noisy working conditions and low wages and readily agree that the conditions of work in handlooms are much better. The following comment by a witness to the English Select Committee on Handloom Weavers (1834) captures the attitude of the Banaras weavers as well:

...no man would like to work in a power-loom, they do not like it, there is such a clattering and noise it would almost make some men mad; and next he would have to be subject to a discipline that a hand-loom weaver can never submit to.” (quoted in Thompson (1963, p. 307))

But the opposition to powerloom by means of the GI is counterproductive for two reasons. One, as I have shown, the criteria of legitimate knowledge are taken outside the community, and two the battle is now fought on the grounds of tradition versus modernity. The debate over technology is still, two hundred years after Luddism, profoundly shaped by the discourse of tradition versus modernity. The GI method chooses a “battleground where [the] strongest deployment (technology) [meets] the resisters’ weakest deployment (tradition)” Grint and Woolgar (1997, p. 59). By

choosing to fight over the terrain of tradition versus modernity the battle is lost before it is fought.

This approach weakens the political capacity of lokavidya rather than strengthening it. By talking of preserving what exists we directly attack the very dynamism that has allowed lokavidya to perform the function it does. Whether or not this is the intent, what is achieved is the integration of lokavidya into the capitalist world market as a niche knowledge-commodity. Further, a GI valorizes a certain technique and certain designs (a knowledge commons), not the processes that create and sustain that commons. Indeed, one cannot expect an IPR, even a collective one, to perform this task. And yet, is it not the actual communities, (some of) their institutions, and the epistemic processes that have created these commons that should be valorized and nurtured? In the case of the Banaras weavers, the reputation of their fabric still flies high, their products continue to sell for thousands of rupees (hundreds of dollars) even as they themselves earn a pittance making them, most of the value-added going to various actors in the middle of the chain between the producer and the consumer (principally the traders). The GI cannot be a solution for what are essentially exploitative production relations.

Formidable problems of implementation and enforcement will have to be solved before the BSB-GI can perform even its limited function effectively. But that apart, the more fundamental problems go beyond the GI as a specific instance or tool to the general question of how crafts are articulated in the world market. This articulation occurs on the basis of the “primitiveness” of craft, as something that belongs to another (more innocent) age and is deserving of our (western/urban consumer) support. Thus paradoxically is the very contemporariness of craft (that it is suited to global tastes) that makes it appear primitive. As anthropologists have noted tourists perceive the authenticity of a craft item in terms of how that item conforms to a stereotype. It should have the “correct look.” In ordinary design practice, new influ-

ences and hybrids are a sign of dynamism and vitality of the design traditions. But in craft, even if undertaken by the lokavidya-holders themselves, new influences and new techniques are a sign of dilution of authenticity, of the corruption of innocence. The global market thus disciplines craft practice (like it disciplines other production) and renders it politically irrelevant. Finding a niche in the global market benefits a small section of the vast community of lokavidya holders, leaving the rest to become unskilled laborers. The alternative is to build a mass base for lokavidya-based products via the strengthening of local markets. The lokavidya perspective envisions that the craft traditions that have been reduced to niche presence have the capacity to fulfill the daily needs of ordinary people. Gandhi's handicrafts program is of the latter variety. But such a political program will not gain credibility unless lokavidya itself is not seen as a primitive relic but as a dynamic knowledge tradition that serves people's needs.



## CHAPTER 5

### SPARE CHANGE FOR SPARE TIME? HOMEWORKING WOMEN IN BANARAS

This modern so-called domestic industry has nothing, except the name, in common with the old-fashioned domestic industry . . . That old-fashioned industry has now been converted into an outside department of the factory, the manufactory, or the warehouse. Besides the factory operatives, . . . capital also sets in motion, by means, of invisible threads, another army; that of the workers in the domestic industries, who dwell in the large towns and -are also scattered over the face of the country.

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(Marx, 1992, p. 590-591)

Women are the optimal labor force because they are now being universally defined as “housewives”, not as workers; this means their work, whether in use value or commodity production, is obscured, does not appear as “free wage-labor,” is defined as “income-generating activity” and can hence be bought at a much cheaper price than male labor.

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(Mies, 1986, p. 116)

#### 5.1 Introduction

In India, 80% of homeworkers, that is home-based workers who undertake piece-rate work for larger industrial or merchant capitalist firms, are women (Mehrotra and Biggeri, 2007). In part for the reason that the bulk of women’s work is still conducted inside the home it still suffers from invisibility despite several years of academic, policy and political efforts. As the Sengupta Commission on the informal sector observes, “the conventional idea of a workplace is the office, factory or an institution” but “as little as one-third of the women workers worked in conventionally designated workplaces”<sup>1</sup> (Sengupta et al., 2007, p. 79). Women workers themselves

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<sup>1</sup>For the entire non-agricultural workforce this share is about 50%

have internalized this discourse of conventionality. A recent study of homeworking women in Delhi found that most of the women interviewed did not consider themselves “workers” but rather “wives or mothers trying to make their little contribution to the family income.” (AIDWA, 2010, p. 16) Women’s home-based work remains scandalously low-paid even after decades of advocacy work by organizations such as the Self Employed Women’s Association (SEWA), HomeNet and many others. The Delhi study found that

after working for an average of nearly seven hours a day along with other family members, the home based workers in Delhi manage to earn only Rs.32.54 per day, whereas the daily minimum wage for unskilled workers in Delhi is Rs.140 (*ibid.* p. 5).

Such examples can be multiplied.

Table 5.1 shows the principal types of work, paid and unpaid, market and non-market, that women integrate with family life inside the home. In this study we are concerned mainly with the top row, work that women perform at home for the market. This takes two main forms: paid and unpaid. By unpaid market work is meant the work women perform as part of a family labor process, the product of which is typically not theirs to appropriate and for which their husband or another male member gets paid. Paid work undertaken for the market can, in turn, be of two types: own account work, where the woman is also an entrepreneur owning the product and assuming market risk; and homework, where she does not own the product and works for piece-wages.

The literature on the different valuations attached to women’s work is vast, beginning with the early feminist writings of the nineteenth century and expanding considerably with feminism’s second wave in the period from 1960-80. To this can now be added around twenty years of focussed work on home-based women workers which has played an important role in the recognition of women working at home as

**Table 5.1.** Types of work women perform at home

Work	Paid	Unpaid
Market	Own account and homework	“Assistance” in artisanal industry
Non-market	-	Housework and carework

“real workers.” In addition to well-known factors such as a captive labor force resulting from social restrictions and lower fallback options, one hypothesis that emerges from this literature is that part of the undervaluation of women’s work can be traced to different values placed on women’s as opposed to men’s time. Since homework is often performed in the time left over after the “primary responsibilities” have been discharged, it is characterized as being performed in “free time.” References to this phenomenon can be found throughout the literature on women’s work, but few studies have made this idea the centerpiece of the argument. To address this issue directly we need to combine a time-use approach that allows us to measure how much time is spent in unpaid and paid work and what the hourly earnings are, with interviews of women workers that explore their own perceptions of their work. The present study attempts to do this.

This work was undertaken as a result of questions that arose during the course of surveys and interviews I conducted among the male weavers in Banaras. First, when discussing piece-rates, male weavers insisted that weaving was a family process and wages were low considering that men, women and children worked together. Thus, as I show later, the male weavers’ point of view can be contrasted with the view of outsiders, such as academics and policy-makers, to whom women’s contribution is mostly invisible. However I also wanted to go beyond an acknowledgment of women’s work and determine the number of hours women devote to different types of work and what fraction of the piece rate paid to their husbands is accounted for by women’s

work. These questions are not only important for the investigation of gender dynamics in artisanal households but also because, as Mies (1986) notes, women's unpaid labor is treated as "natural," a part of her wifely duties and hence not in need of remuneration by the merchant or contractor. As women's reproductive and care-work as well as housework are devalued by constructing this work as extension of women's biology, and therefore not "real work" similarly, women's role in craft or domestic industry is often construed as that of a helper or assistant, not as the real worker, even though male artisans themselves, participating as they are in a cooperative labor process every day may be well aware of the crucial contribution that women make.

Second, there were instances when male weavers being interviewed denied having any source of income other than weaving even though I later discovered that women in the family were engaged in various types of work such as embroidery, sewing, finishing powerloom-made saris and so on. While they may have omitted to mention this work simply in order to understate their family income, it is also possible that they did not consider this work to be worth mentioning. These women, who form part of the present study, are homeworkers (industrial outworkers) and not own-account workers. Further, the majority of them are Muslims (of the Ansari community) and are subject to varying degrees of restrictions due to *purdah*. In addition to all the reason mentioned above, the wage-work undertaken by them is likely to be missed in official surveys for this reason as well. It seemed important to ask how much time they were devoting to piece-rate work, which many described as "spare time activity." Further, though all women could report the piece rates they were receiving and the number of days it took them to finish a piece, they were often unable to account for how much work they putting in during the course of the day and as result did not know what their earnings per hour were.

In this study I undertake these tasks in addition to examining the labor process and the structure of the working day for home-based women workers in Banaras. I pay

special attention to how time is used and how time is conceptualized by these women. I also estimate hourly wages and investigate the women's own perceptions of their work. Women's time use has of course received a lot of attention in recent years, both in OECD and developing country contexts. However, the bulk of this attention has been focused on unpaid care work (or housework). Paid work performed at home and unpaid work performed for marketed goods has received less attention. The women in the study undertake three major types of work, pre-weaving preparation of weft yarn, embroidery and post-weaving processing of powerloom fabric. Banaras is not known for its embroidery, as Lucknow is, however, in an effort to provide cheaper, imitation-handloom saris, powerloom weavers in Banaras manufacture simpler designs on the loom and have them embroidered after weaving with *zari* (gold thread) and other ornaments (see Chapter Four). Thus somewhat paradoxically this is "hand-work" for a mass market. Most such work is undertaken on saris in the low to middle price range (from a few hundred to a few thousand rupees) although fashion trends are increasingly demanding heavy hand and machine embroidery work even on higher end fabrics. In the last decade or so, deteriorating incomes in the handloom sector have pushed wives of the weavers, who traditionally performed preparatory yarn-work for weaving, to undertake such embroidery work for direct payment.

The chapter is organized as follows. In section 5.2 I review the literature on women's work and time in modern domestic industry. Section 5.3 outlines the empirical methods used in the study, Section 5.4 presents results on homeworking in Banaras, and Section 5.5 concludes.

## **5.2 Background**

### **5.2.1 Production Relations in Home-based work**

As capitalism develops, what appears as the persistence of household industry can also be understood as the destruction of artisanal industry and the reestablishment of

modern domestic industry which entails profoundly different social relations under the guise of superficial similarity. The continued dominance of home-based work, which results from factors such as “skill-mismatches” between artisans and formal industry, low employment elasticity of large-scale industry and “post-Fordist” decentralization of production, has contradictory effects on the position of women in society. On the one hand women continue to participate actively in economic life. On the other hand as domestic industry becomes an “outside department of the factory,” artisans become disguised wage workers, and women in particular labor long hours for wages far below the legal minimum wage. Home-based work allows women to contribute on the basis of their knowledge and skills, but it also makes available a super-exploitable labor pool for the capitalist sector. It allows women to integrate market work with housework but also prevents the questioning of patriarchal norms that underpin the domestic division of labor. In such a scenario women can be said to suffer the combined exploitation of patriarchy which restricts and circumscribes their social roles, and capitalism which takes advantage of these restrictions. Not only that but, as Mies (1982) shows, the withdrawal of women from the workshop or the farm into the home can itself be a result of “modernization,” as patriarchy finds new sanction from the capitalist narrative of the housewife and the family wage.

Putting-out or vertical subcontracting is the dominant type of employment relation in home-based work.<sup>2</sup> Putting-out is not a recent phenomenon in India. In its colonial form, instituted by Dutch, British and French merchants, it dates back to the seventeenth century.<sup>3</sup> As Mies (1982) shows in the case of Narsapur, women

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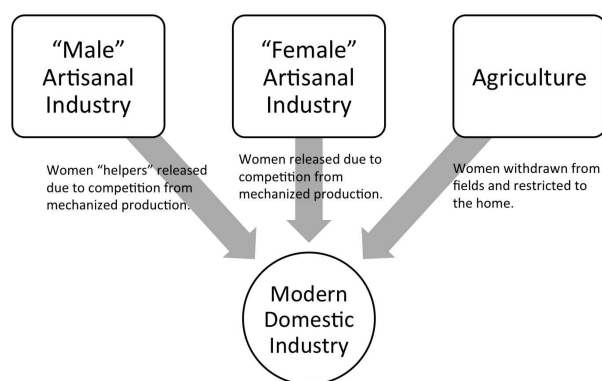
<sup>2</sup>Vertical sub-contracting is the term used to describe the scenario where a larger firm puts out a part of the production process to a smaller firm or a home-worker and is a downstream seller of the commodity. Horizontal subcontracting is when firms engaged in the same activity put out work to each other to cope with larger demand or for quicker deliveries.

<sup>3</sup>See Chapter Three for a discussion of the emergence of putting-out in Indian weaving.

have been involved in this process directly for 150 years (since 1860). Indirectly, as co-workers in artisanal workshops they have been a part of it for even longer.

Historically, domestic industry has drawn upon three distinct sources of labor (Figure 5.1). First, women who participated with their husbands or other male members of the household in various industries traditionally deemed “male occupations” are set free as mechanized production out-competes artisanal industry. Such mechanized production need not be factory based, it can also be small workshop based, as is happening in Banaras where powerloom production is out-competing handlooms forcing women who have traditionally helped their husbands in weaving to take up embroidery and other work. Second, women are displaced from their traditional roles as independent artisans in food and textiles, as factory production increasingly penetrates these consumer markets. Third, women engaged in small agriculture are displaced due to dispossession and mechanization or because new norms of respectability forbid women from working outside the home, or because agriculture becomes unremunerative. Note that even while they participate in piece-rate work, women may continue to also be involved in their original spheres of activity.

**Figure 5.1.** Sources of labor-power for modern domestic industry



Factors commonly referred to in the literature as drivers of home-based work on the labor supply side are surplus labor (released from the sources listed above), patriarchal ideology that restricts women to working at home, and cultural milieu that

makes the home the conventional workplace. On the demand side the literature give importance to efficiency of sub-contracting, the desire to reduce the power of unions, the desire to circumvent factory legislation, and the attempt to cope with market uncertainties (fashion trends, seasonal demands) which require workforce “flexibility.” (see Penington and Westover (1989) for a discussion of these factors in the context of homework in England in the late nineteenth-early twentieth century). To these one may add technological factors such as vastly increased speeds of transportation and communication which allow dispersed production to become cost-effective. This last factor is particularly important in explaining how home-based work continues to survive by integration in global commodity chains (for e.g. de Neve (2005b)).

In the past two decades, home-based workers have been the subject of a large number of studies that have documented wages, conditions of work, and relations of production for women workers in the informal economy (Bajaj, 1999; Balakrishnan and Sayeed, 2002; Beneria and Roldan, 1987; Boris and Prugl, 1996; Chen et al., 1999; Home Net, 2006; Menefee-Singh and Kelles-Viitanen, 1987; Prugl, 1999; Sudarshan and Sinha, 2011). The Self Employed Women’s Association (SEWA) of India, and HomeNet International, both founding members of Women in the Informal Economy: Globalizing and Organizing (WIEGO), have played a crucial role in bringing greater visibility to this workforce. Here I review key studies with reference to the light they shed on the relations of production, labor process, wages and knowledge relations. Although I focus on developing countries, and in particular on South Asia, it is useful to note at the outset that the common belief that home-based manufacturing it is a developing country phenomenon is not correct. Rowbotham (1993) reports on several studies which document homework in Britain, France, Germany, the Netherlands, Italy, Spain, and Portugal, in other words all over Europe, in food, clothing, wood, leather, toys, electrical and electronic industries.



Menefee-Singh and Kelles-Viitanen (1987) is an early volume in a series of books that have come out in the past two decades collecting case-studies on home-based work. The editors begin by noting that unpaid care work has received much more attention than home-based paid work and go on to note the invisibility of this work in national and international statistics. A decade later, even though things have improved with regard to accounting of this work in national statistics, Chen et al. (1999) emphasize that home-based workers,

are less likely to be enumerated in labor force or establishment surveys than entrepreneurs/workers that work outside the home. For example, many household labor force surveys fail to recognize multiple economic activities carried out by household members, particularly homebased activities. [p. 605]

While home-based workers in general suffer from varying degrees of invisibility, some types of workers are more invisible than others. For example, women in rural areas who run small shops from their homes may be invisible to policy-makers but are quite visible members of their communities, interacting as economic actors with other women as well as with men. At the other extreme women in *purdah* doing embroidery or other work at home, dealing via middlemen (who may be male relatives), are invisible not only to planners but also to society in general.

Roughly thirty years of political, academic and policy work have gone into efforts to understand and improve the position of home-based women workers. At the level of policy, one achievement has been the adoption by the ILO in 1996 of a “Convention on Home Work” that gives an official definition of “homeworker,” as a type of home-based worker who works from home but is in a clear employment relationship because he/she

carries out work for remuneration in premises of his/her own choice, other than the work place of the employer, resulting in a product or service as

specified by the employer, irrespective of who provided the equipment, material or inputs used.(Unni and Rani, 2005, p.6)

Since employers routinely circumvent labor laws by portraying all home-based workers as self-employed, from the labor policy perspective the demarcation between self-employed home-based workers and homeworkers is significant. It leaves only genuinely self-employed workers out of an employer-employee relationship, so that labor laws covering homeworkers, who are disguised wage-workers, can be developed. A related distinction that the ILO also makes is between piece-rate workers, who are provided raw materials and cannot sell the product in the market, and own account workers who procure their own materials and can dispose of their own product.(Sudarshan and Sinha, 2011, p.5) Of course, these boundaries are not always sharp (Basole and Basu, 2011). The ILO definition developed in 1996 had one important omission, viz. unpaid workers in home-based industry. The Independent Group on Home-based Workers in India set up by the Ministry of Statistics and Programme Implementation in 2007 (Government of India, 2008a) broadened the definition to include this category. Sudarshan and Sinha (2011, p. 8-9) report:

The Group recommended the following definitions for “home” and “home-based workers.” Home is defined as (i) dwelling unit and/or (ii) structure attached to dwelling unit and/or (iii) open area adjacent to the dwelling unit. Home-based workers are defined as: a) own-account workers and contributing family workers helping the own-account workers, involved in the production of goods and services, in their homes, for the market; and b) workers carrying out work in their homes for remuneration, resulting in a product or service as specified by the employer(s), irrespective of who provides the equipment, materials or other inputs used; and those contributing family workers helping such workers.

It should be noted that the definition of “home” adopted is broad enough to include small workshops adjacent to the living premises.

Much attention has been paid in the literature on home-based work to the question of production relations. As Unni and Rani (2005) note, the home-based worker as an analytical category by itself does not take us very far since it encompasses several different production relations, the unifying factor being that the producer does not work in a “conventional” workplace such as a factory, office, school etc. Unni and Rani (2005) note two important complicating characteristics. First, many workers are neither wage-workers nor own-account workers, but something in between. And second, home-based workers labor in and with their families and do not fit the liberal, individualized notion of a solitary worker. So self-employment and wage labor, work and family, blur together. One glimpse into the complexity of production relations comes from NSS data on home-based workers in the informal textile sector (Government of India, 2008b). My calculations based on these data reveal that almost 19% of men who undertook work exclusively on putting-out basis from a larger unit (i.e. were homeworkers) also employed wage-workers themselves (a median of two workers per firm). Contrasted with that, only 1.3% of women in the same position employed wage-workers (median of one worker per firm). Furthermore, 66.3% of men (but only 35.6% women) reported availing of unpaid family labor. Thus when we speak of home-based workers, at least three different class relations are being invoked: the classical petty producer appropriating only his or her own labor; the family producer appropriating his/her own labor and the unpaid labor of others in the home; and the small capitalist appropriating the labor of a wage-worker. Moreover, the surplus value produced by all three types of firms maybe directly appropriated by a master-unit via a putting-out system, or by unequal exchange via the market (in case of the self-employed). Both own-account and piece-rate workers may work together with

unpaid family members or may even employ wage-workers, though women are rarely found in the last category (Unni and Rani, 2005).

**Figure 5.2.** Typology of production relations in home-based work

Product appropriated by Labor process	Self	Other
	Self only	Self and Other
	Own account worker with no other labor	Piece-rate worker with no other labor
	Own account worker working with unpaid or paid labor	Piece-rate workers working with unpaid or paid labor

Table 5.2 constructs a typology of these relations based on two criteria: one, whether the product of labor is appropriated by the home-worker or by a merchant or contractor; and two, whether the home-based worker controls another's labor (a family member or a wage-worker) or not. Four possibilities emerge, all of which can be observed empirically.

Carrying the question of production relations beyond the level of the home itself, a few studies in the value-chain analysis tradition have asked how much of final value added is accounted for by homeworkers. In a typical modern value-chain, formal sector companies, national or multinational, contract out work to small units in the formal or informal sector which in turn outsource some operations to home-based workers (Sudarshan and Sinha, 2011). Khan and Kazmi (2003) and Mehrotra and Biggeri (2007) present some calculations estimating the share of value added that trickles through to homeworkers in Pakistan and India, respectively. The share of the final retail price that reaches the producer varies from 15% in zardozi embroidery to 2.3% in incense stick manufacture in India, and from 18% in carpet making for domestic market (this drops to 3% if carpets are exported) to 2.5% for prawn peeling to 0.5% in incense stick making in Pakistan. These numbers of course suggest low

wage rates, an issue that has received much attention in the literature and to which we now turn.

### 5.2.2 Spare Change for Spare Time

Mies (1982) argues that women's labor is viewed as fundamentally different from men's labor. By defining women as housewives first, their labor power is treated as natural

...freely available to their husbands, as well as to exporters. Their exploitation has therefore not only the character of the classical wage labor exploitation but also that of the exploitation of a natural resource...(like forests) where the raw material appears to be free for all (p. 151)

The majority of Indian women have never been housewives in the classical sense of a married woman who performs only unpaid direct and indirect care-work. However, primary responsibility for care-work can create preferences that make joint production of market and non-market goods more valuable than their separation, thereby creating a preference for home-based work. But women's market work, when viewed through a patriarchal framework, may not be seen as "real work" and their time, after the discharging of housework responsibilities, can be seen as "spare time." It becomes clear in study after study, starting with some of the earliest research that women's home-based work makes a crucial economic contribution to the household and is not a leisure time activity. Kazi and Raza (1989) in their study of home-based women workers in Karachi find that for the poorest households in their sample, home-based women workers contribute 58% of family income. Even where the economic contribution is minor (in the sense of being less than 50% of household income) this is often the result of low wages rather than the work being less than full-time. When Wilkinson-Weber (2004, p. 296) notes that "the gap between what women's craftwork is and what it is projected to be is particularly dramatic" and refers to

how women's production of craft is culturally constructed as leisure-time activity, occasional work, non-work or production for own use, she shows how the housewife discourse has distorted and hidden the unbroken chain of women's participation in market work from artisanal industry to modern domestic industry.

Mies (1986) traces devaluation of women's conscious labor to essentialization of their specific roles in child-bearing and milk production as *biological* and hence not fully human.

It is of crucial importance for our subject that women's activity in producing children and milk is understood as truly human, that is conscious social activity. Women appropriated their own nature, their capacity to give birth and to produce milk in the same way as men appropriated their own bodily nature, in the sense that their hands and head etc. acquired skills through work and reflection to make and handle tools. In this sense, the activity of women in bearing and rearing children has to be understood as work (p. 53) <sup>4</sup>.

Examples of "free-time" ideology abound. Wilkinson-Weber (1999) offers an example from the Chikan embroidery industry of Lucknow where merchants speak about women's embroidery work, a crucial part of the industry, as "a household task that is subordinated to domestic work," a "free-time activity" that is neither a priority for women nor a "real occupation." One merchant goes so far as to say "They just sit around and they get work, and they get money. All in their spare time! I'm the one with all the headaches." (p. 42) This devaluation is not limited to home-based workers. Joeke (1985) reports for Moroccan garment factories, where women earn about

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<sup>4</sup>Mies continues that

It is one of the greatest obstacles to women's liberation, that is humanization, that these activities are still interpreted as purely physiological functions comparable to those of other mammals, and lying outside the sphere of conscious human influence.

70% of men's wages for the same work, that employers do not relate low wages to lower productivity. Rather there is an explicit discourse surrounding the value of women's time. The phrase used is "working for lipstick," earning a little extra money for personal luxuries, reminiscent of the 19th century Victorian concept of "pin money." The discourse of free time thus reappears in country after country, in societies as diverse as England, Morocco and India. Contrary to the "pin-money view," work in developing and developed countries has shown that women's earnings account for a substantial fraction of family income even in contexts where they are seen as being supplemental (Harkness et al., 1997; Kazi and Raza, 1989). To this list may be added the more sophisticated though no less problematic expression "income generating activity" which also obscures the fact that much of this activity is wage-labor and not self-employment. Since work for wages is considered inappropriate for women, but is often necessary for the survival of the family, such work is rendered invisible by casting it as either as a "hobby" or as "income generating subsidiary activity." Critiquing the paradigm of "integrating women into development," which often means getting women to work in income generating activities Mies (1986, p.118-119) notes:

What [women] do is not defined as work, but as an "activity." By universalizing the housewife ideology and the model of the nuclear family as signs of progress, it is also possible to define all the work women do- whether in the formal or informal sectors- as supplementary work, her income as supplementary income to that of the so-called main "breadwinner," the husband. The economic logic of this housewifization is a tremendous reduction of labor costs.<sup>5</sup>

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<sup>5</sup>In the 1980s Marxist Feminists debated whether women could be paid wages lower than the value of their labor power because patriarchal ideology constructed them to be financially dependent upon their husbands. In a sense this is a formalization, in Marxist terms, of the idea of "pin money." See Barrett (1988, p. 26, 166) for more details on this debate.

In their widely-cited study on home-based women workers, Chen et al. (1999, p. 605) note that wages in such work are very low because, even if paid, this work is often seen as an extension of unpaid housework. Or to put it another way, since women's time is socially constructed to be free time, it has no opportunity cost. In the discourse of patriarchy this appears in the following form: "These women are sitting at home doing nothing, at least doing this work they will be able to earn something."

The problem is compounded by the prevalence of piece-wages. Low daily wage rates, particularly for women, are sometimes justified on the basis that women are not able to put in a full working day (8 or 10 hours). Hence hourly wage rate for women may in fact not be very much lower than prevailing rates for men. This argument can be sustained because hourly rates are in fact hard to determine. Various forms of putting-out or sub-contracting arrangements found in home-based work have generally been based on piece-wage contracts since these eliminate the need for supervision of work (Basole and Basu, 2011; Marx, 1992). While hourly or daily wage rates are easily known and comparable across occupations, piece rates are highly industry-specific, not easily compared and are hard to convert into time-based rates if no records are available for hours worked. Thus it can be argued that piece-wages do not enjoy a lower bound resulting from social or moral considerations, as hourly wages might.<sup>6</sup> Among workers as diverse as Iranian carpet-makers and Brazilian seamstresses, the important hurdle in estimating hourly earnings for piece rate workers is that it is difficult to determine the number of hours and days spent working because paid and unpaid work overlap and intertwine often unpredictable ways (de Paiva Abreu and

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<sup>6</sup>Examples of piece-rates that hide very low time-rates are easily found. The Sengupta Commission Report, drawing upon studies by HomeNet South Asia and ISST, notes

In Uttar Pradesh, home-based chikan workers on piece-rate can earn from Rs.20-25 per day to Rs.10- 15 per day. In Ahmedabad, frocks were stitched for Rs.35 per day. Making of Agarbatti earns Rs. 48 - 80 per day in Madhya Pradesh, but only about Rs.28 per day in Ahmedabad. Overall, piece-rate wages tend to be below minimum wage norms (Homenet South Asia and ISST 2006 in Sengupta et al. (2007, p. 91).



Sorj, 1996; Ghavamshahidi, 1996; Rao and Husain, 1987) The working day is composed of an interweaving of various tasks, the timing being determined by the needs of others, such as getting children ready for school or preparing three fresh meals a day. Unlike care-work, market work does not proceed strictly by the clock, it is done as and when the woman has time “to spare.” For these reasons, estimates of hours worked and hourly earnings are rare in the literature. Among the few studies that attempt to do this are Rao and Husain (1987) who use conventional (not time use) surveys to find that in the Delhi garment sector although women themselves considered their work marginal (“He earns a living. I only do the cooking”) forty percent of the them did at least six hours of piece work per day.<sup>7</sup>

Direct evidence of the extent of women’s participation in various activities comes from time-use surveys (TUS) which have become increasingly common in the last decade or so and have been very helpful in understanding the dynamics of unpaid care work. Antonopoulos and Hirway (2010) note that in developing countries the TUS can also be of use in measuring time spent in unpaid work that falls in within the System of National Accounts (SNA) boundary.<sup>8</sup> Similar arguments could be advanced for paid market work performed by women at home, however despite this

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<sup>7</sup>And in a rare calculation of hourly wage rates Azid et al. (2001, p.1115) offer the following details of homework in Multan, Pakistan:

If a person gives 5 hour a day to one dupatta, than he or she will prepare it in 3 days it means they are spending 15 labour hours on one piece and getting Rs 3.5 against each labour hour. (piece rate is Rs. 50)

<sup>8</sup>“In developing countries the TUS could be very useful in measuring another dimension of unpaid work, namely SNA work covered under the production boundary of the UN-SNA. This work is frequently not well-recorded in these countries through labor force surveys and mixed surveys (household cum enterprise surveys), as: 1. it is not always east to distinguish between informal work and household work at the practical level, 2. there are sociocultural biases on the part of respondents, particularly women, who fail to report themselves as workers, 3. there are also socio-cultural biases on part of interviewers or investigators who frequently fail to report women’s economic work correctly and 4. the nature of informal work is frequently temporary, seasonal or of short duration, scattered and sporadic, and is irregular and mobile, all of which makes it difficult to net this work through these surveys (Antonopoulos and Hirway, 2010, p.10).

obvious application of time-use analysis time-use surveys have not been applied to unpaid and paid work undertaken at home for the market. One exception is a recent study by (Floro and Pichetpongsa, 2010) which presents time use data for Thai home-based workers and constructs a well-being index based on time use and work intensity as well as identifies the determinants of well-being. The authors present data on the number of hours men and women spend in different activities at home, including market work reporting that women spent 8.9 hours in market work (primary activity), one hour less than men. However, when secondary activities as well as unpaid work are considered, women's working time exceeds that of men. There are no studies that document in detail how women inter-weave market and non-market work and that link these objective measures of time use to women's own subjective appraisals of their work.

## 5.3 Data and Methods

### 5.3.1 Time-Use Survey

Time-use data were collected from home-based women workers in Banaras during October 2009 to June 2010 as part of a larger project on the city's handloom and powerloom industries. Since most women's work is carried on in private (in *purdah* in case of the Muslim women) and no public lists are available, purposive and snow-ball sampling were employed to identify participants. Male weavers contacted for the weaving study were asked if their wives or other women in their household undertook paid work at home. Further, community contacts of a local non-governmental organization were used to identify women in the non-weaver localities of Banaras. Forty-two women engaged in preparatory yarn-work for weaving, embroidery, post-weaving processing of powerloom fabric and other miscellaneous work were surveyed in the following areas: Lallapura, Sarai Mohana, Ramnagar and several *mohallas* in Alaipura. Results are presented here only for the 32 women who undertook embroi-

dery work or finishing of powerloom fabric. The majority (20) of the 32 women in our sample come from weaving households. Five are from families where the traditional occupation is embroidery work and seven are from households with other backgrounds such as farming, informal service sector work and petty retail. The sample consists of 27 Muslim and 5 Hindu women. The women range in age from 16-45.

Time-use data were collected twice a day, using 12-hour recalls, for five consecutive weekdays. The five day period was chosen because pieces usually took somewhere between one and five days to finish. The intent was to capture the pattern of time use for the entire duration of time in which a woman worked on one piece, typically one *sari*.<sup>9</sup> Due to low levels of literacy own dairies could not be maintained and female volunteers were employed to interview women twice a day. Primary activities were recorded at one hour intervals under pre-determined headings of “yarn-work,” “care-work,” “market-work,” and “leisure.” These categories were created on the basis of pilot interviews with three women who were subsequently also surveyed. A binary code was utilized wherein the observer assigned the value “1” if a certain type of work was undertaken for the major part of an hour, and “0” otherwise. This method is rapid and therefore allows data collection over several days, but it suffers from two problems. First, only primary activities are recorded, potentially underestimating the work burden resulting from overlapping or simultaneous activities. And second, activities that take up more than half an hour but less than an hour are still counted as a full hour. Despite these problems the method was employed so that surveys were brief enough to be administered to time-pressed women twice a day for five consecutive days. Interviews and field observations support the findings of the time-use survey.

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<sup>9</sup>A *sari* is an unstitched piece of fabric, typically 5-6 meters long and 1 meter wide traditionally worn by Indian women.

### **5.3.2 Interviews**

Semi-structured interviews were also carried out with twenty women who performed piece-rate work. Of these five were also part of the time-use survey. Interviews ranged from ten minutes to half an hour in duration and questioned the women on the type of work they performed, how long they worked, the wages they received, and how they prioritized different types of work. While an attempt was made to conduct interview one-on-one, this was not always possible, since women often worked in groups, or were to be found in the presence of other family members. Under such circumstances, rather than stop the interview, it was accepted that the material would tend more towards a focus group than an interview. In instances when men started to dominate the conversation, they were requested to let the women speak for themselves. In addition to the women themselves, one contractor and two middlemen were also interviewed regarding the organization of the putting-out process.

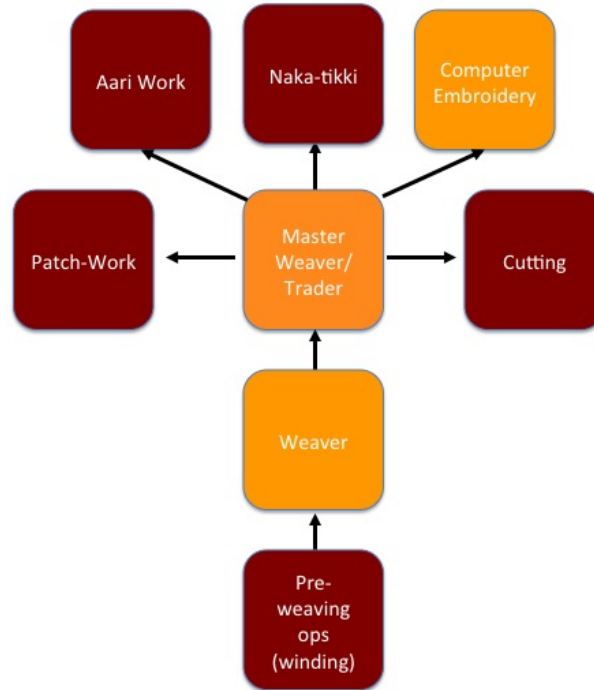
## **5.4 Results**

### **5.4.1 The Social Context of Homework in Banaras**

The organization of the Banaras textile industry has been described in the Introduction and in Chapter Three. Here I focus on those parts of the industry which employ female labor. Almost without exception, female labor in the industry is home-based. To convey an overall perspective on the different types of work involved, Figure 5.3 schematically shows the steps in the production of saris or dress material. The brown squares depict women's work and the orange squares men's work. "Aari-work," a type of embroidery work, is shown here as women's work, but depending on the type of aari embroidery, men are also found doing it. In Banaras and surrounding rural areas women are almost never found weaving (see Raman (2010) for a rare exception, the situation is different in Mau where women operate light powerlooms and

also fly-shuttle handlooms) and are completely excluded from the class of masters and traders.

**Figure 5.3.** Men's (orange) and women's (red) work in Banaras



The weaving process, whether undertaken on handlooms or powerlooms, is a family labor process in which men, women and children are involved. The completed fabric is returned to the merchant or master-weaver who has commissioned it. At this point, handloom saris may directly be sold to wholesalers from Banaras and other cities, or further work may be undertaken. Powerloom saris go through an additional step (“cutting”) to make them ready for the market or for further work. The purpose of further work such as “patch-work,” “aari-work,” and “naka-tikki” is to increase the value of the sari by adding designs in excess of those already woven into it. All these activities are women’s work, though men are commonly found doing aari-work as well as patch-work. Finally, the merchant or master-weaver may also get embroidery done on the woven fabric using a computerized embroidery machine. Any given sari (in particular a powerloom sari) may have patches sewn on it, ornaments

(such as sequins) attached, and machine embroidery done before it is ready for the market.

All these types of work are organized as per a familial labor process. A “typical” Ansari household is a joint family consisting of a patriarch and his sons, each with his own nuclear family. Such a household may consist of four or five adult women depending on the marital status of the brothers. In Ansari households of Banaras (but not of neighboring Mau, see below) women are usually excluded from the public space of the weaving workshops and are restricted to the domestic space upstairs, known as the *zenana*. The organization of work mirrors this “spatial integration of women’s work into kitchens and men’s tendency to create workspaces away from children and from spaces dedicated to reproductive tasks” (Prugl, 1999, p. 93): the looms are downstairs and embroidery, yarn-work or cutting work is usually done upstairs.<sup>10</sup> Common household tasks such as cooking, cleaning, and washing clothes along with weaving-related work and any paid work undertaken (such as embroidery) are shared by women of the household. Thus one person may do the cooking for the entire household, while her sister-in-law does embroidery work. These responsibilities can shift over time. Mehta (1997) has conducted a detailed anthropological study of the weaving labor process and its ritualistic significance among the Ansari weavers of the town of Barabanki in Uttar Pradesh. He argues that three generations of the family have defined roles in weaving. The roles of the father and the son in apprenticeship have already been described in detail for Banaras in Chapter Three. Here I note that, as in Barabanki, in Banaras also, women are responsible for winding and sizing operations that take place before weaving. The male weaver takes over after these operations are performed. Each wife is usually responsible for preparing yarn for her

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<sup>10</sup>A thorough examination of the practice of *purdah* is outside the scope of this study. See Papanek (1973) for an overview of the practice and meaning of *purdah* in South Asia. Kumar (1988) and Raman (2010) have dealt with this issue for the Ansaris of Banaras, while Mehta (1997) discusses family organization and kinship among the Ansaris of Barabanki (another town in Uttar Pradesh).

husband's loom. Unmarried girls do not perform yarn-work, but are responsible for housework and often undertake embroidery or other paid work.

Having described the “typical” family, however, I must immediately complicate the picture. My interviews and field observations reveal that class, in terms of production relations as well as income or wealth status plays a crucial role in determining the stability of the joint family, the types of work women undertake and the restrictions they are subject to. The prolonged recession in the handloom industry has created tensions within several joint families, leading brothers to go their separate ways and try their luck on their own. Under such circumstances, a brother may relocate with his nuclear family to a different neighborhood, perhaps leaving the traditional weaver localities in the heart of the city and moving to the surrounding semi-urban centers such as Kuniya or to neighboring towns such as Padav. If relocation is not possible or desired, partitions may be created within the existing building to formally separate the families. Years of such re-modeling can create very confusing domestic architecture with a maze of courtyards, doors and passageways which leave a visitor, innocent of the family's history, quite bewildered. A separation of the joint family can also manifest itself as wives taking turns to cook for their husbands and children in the same kitchen. Further, women who have lost their husbands or are divorced or separated, may return to their parent's household. Other deviations from the “norm” may also occur depending upon the exigencies of circumstance.

Women from master-weaver households do not undertake yarn-work or paid market work. They may also observe *purdah* more strictly than women from working class Ansari households. Although the “culture of *purdah* is quite pervasive” (Raman, 2010) among the Ansaris, it is equally true that the actual practice is highly variable with respect to class, family circumstance and the specific context of a male-female interaction. Raman (2010) offers the most detailed account available so far in the English language on the ways in which *purdah* is observed among the Ansaris, the

restrictions it places and the ways in which women negotiate it or even utilize it for gaining access to the public sphere.<sup>11</sup> The wife of my closest informant, Javed Bhai, practiced *purdah* in the sense that she was not seen downstairs or in public without a veil. However, as familiarity grew I was allowed access to the zenana upstairs. Finally, there is also regional variation. For example, it is interesting to note that the Ansaris of the town of Mau organize work completely differently. Here women weave, mostly on light powerlooms (little more than mechanized handlooms). Men are found either weaving alongside women or dealing with procurement of raw materials and delivering finished goods. The way *purdah* is achieved in this case is by shuttering the windows of the workshop so that no passer-by can glance inside. A convincing explanation of why women weave in Mau but not in Banaras is difficult to come by. A common response to the question was that women have always been weaving here (before powerlooms they wove on handlooms) and that the type of work done in Mau requires a lower amount of skill, which women are able to master more easily than the intricate work of Banaras.

## **5.4.2 Types of Work and Labor Processes**

### **5.4.2.1 Preparatory Yarn Work**

As mentioned earlier, Ansari families in Banaras display a division of labor wherein the husband weaves and the wife prepares the weft yarn. The core of the work involves winding of weft yarn onto bobbins in two steps, both of which may be manual or mechanized. Mechanized operations are common among powerloom-owning families while handloom weavers generally make do with manual techniques (since the consumption of yarn on powerlooms is much higher). The smooth running of the family labor process is essential to keep production going. This is ensured through

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<sup>11</sup>For example, the *nakab* (veil) is an important enabling device for girls to be able to attend school and college.



a strong inculcation among women of a sense of duty towards their husband's work. Even though women are paid directly for embroidery and cutting work and are not paid for preparatory yarn work, they usually consider the unpaid work to be more important. It is viewed as part of the wife's duties, along with taking care of the household. In interviews, women distinguished between "ghar ka kaam" (lit. housework) and "baahar ka kaam" (lit. outside work), with housework including not only direct and indirect care-work but also preparatory yarn work for weaving. Outside work meant any work undertaken for wages, not work performed outside the home. This is not the division I adopt for analysis. For my purposes, "care-work" is the same as the conventional definition of housework as unpaid work performed in cooking, cleaning, child-care etc. The ability of the new daughter-in-law in the family to perform all work related to weaving is essential to a successful marriage. Ansaris usually marry among themselves and Ansari girls are trained in this work (as in other work such as embroidery) by their mothers and grandmothers (or aunts and grandaunts) as boys are trained by the male family members in weaving. This established system of training and labor extraction organized via the family provides merchants and master-weavers with a large, well-trained and disciplined workforce.

Contrary to the perception in larger society and even in academic writing that women's work is invisible, I found that Ansari men readily acknowledge the crucial contribution that women make to weaving. One elderly weaver described weaving as the type of work where the children, the women, the old, all have to work together to make a sari. Though it can be claimed, as Raman (2010) notes, that women's labor disappears into the "daily rhythms of the weaver household" and is invisible because the cost of the woman's labor is "subsumed under the labor of the entire family" male weavers are at pains to point out that the weaving wage (for those weavers who are paid piece-wages) is a *family wage* not in the industrial capitalist sense that the male "breadwinner" is paid to support a "non-working" wife, but in the sense that it

is the wage paid for the entire family's labor. The same is the case of almost every other artisanal or home-based industry.

#### 5.4.2.2 Embroidery

Two major types of embroidery work are found in Banaras today, viz. *aari-work* (also known as *zardozi* work) and *naka-tikki* (also called *tikki-sitara* or fancy work). These two have distinct techniques, histories and political economies. Aari embroidery work has traditionally been performed by a distinct class of male artisans known as the *zardoz* and is to be found in several cities in Uttar Pradesh including Banaras. This work appears to be a few centuries old and male embroiderers often belonging to the Shia sect (*Ansaris* are Sunni Muslims) are found in the more high value-added activities in this industry (such as manufacture of items for export, including badges for US military uniforms).<sup>12</sup> Contemporary lower end aari work is performed by both men and women, of weaving as well as non-weaving Muslim castes. Typical aari embroidery is performed on a sari or on “dress material” (fabric intended for stitching into *salwar kameez*) with a special curved needle called “aari.” Gold thread (*zari*) maybe combined with sequins, beads, and other ornaments which are sown onto the fabric either in accordance with patterns already woven on the cloth or in areas where the fabric is plain. A template is prepared by punching holes on white paper according to the desired pattern. This paper is placed on the fabric and talcum powder or some equivalent can be used to imprint the fabric with the design. The embroiderer can then follow this imprint. Figure 5.4 depicts a sample of aari-work on a powerloom manufactured sari. In this example the basic woven pattern has been reinforced with red and tan thread bounded with *zari*.

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<sup>12</sup>In a bizarre turn of events, the Norwegian neo-Nazi Anders Breiwick, who murdered 76 people in a shooting rampage, got his crusader badge made from a *zardoz* in Banaras. See: <http://www.thehindu.com/news/national/article2293819.ece?homepage=true>

**Figure 5.4.** Aari and naka-tiki (“fancy”) embroidery work.



Source: Field Photos.

The ornaments (beads and sequins) seen in Figure 5.4 are sown with an ordinary needle. This is an example of naka-tikki work. Like aari, this work is also performed on saris and dress material woven in Banaras and in nearby towns such as Mau or Mubarakpur. Naka-tikki is comparatively low-skilled compared to aari work. It may be fair to say that this work proceeds in the large shadow cast by Banarasi Sari weaving and the more well-known zardozi work. Most studies of the Banarasi Sari industry either ignore or give brief mention to it. My experience suggests that naka-tikki work is performed overwhelming by women and young children. Adult males are rarely found doing it, except when no other employment is available or a consignment has to be finished on short order. Like aari, the embroiderer is expected to sew ornaments according to instructions, on patterns which are either woven or previously embroidered during weaving or post-weaving using computerized embroidery machines. Naka-tikki work, according to Javed Bhai, is of much later provenance than aari, having spread widely only in the last decade or two. According to him the rise of “fancy embroidery” is tied to the demise of the handloom Banarasi Sari. As powerlooms have begun to compete with handlooms in the sari market, various meth-

ods have been developed by powerloom weavers to mimic the woven embroidery of handloom saris. One method is to do what is known locally as “hand-work” i.e. embroidery of various ornaments by hand onto woven fabric. This is the demand-side for this type of labor, discussed in greater detail in Chapter Four. On the supply side, the declining fortunes of the handloom weavers have forced their wives to undertake any work available at home, in order to increase household incomes. As weaver incomes decline, more and more women are desperate enough to work at this back-breaking, eye-straining and very low paid work. As Javed Bhai puts it referring to embroidery work,

A: In the face of competition Banaras has maintained a niche, because even if the cloth comes from Surat or Mau or China, the decoration is done here. If this work was not there the Banaras weavers would be finished. When handloom saris declined, plain cloth came in and people started doing all this embroidery work, they closed down the looms.

Q: But the women we talked to said they didn’t like this work (naka tikki)

A: They are helpless, what will they do? When handloom work was finished, people started doing naka-tikki, finishing of powerloom saris and so on. (Field Notes)

In both aari and naka tikki work, the fabric is usually stretched on a wooden frame (see Figure 5.5). The worker sits on the floor and works on this frame. Work is labor intensive and demands high levels of concentration as well as attention to detail. Either daylight or bright illumination are important for the work. Older women complained of failing eyesight and inability to perform the work due to eye-strain. Another hazard in the summer months is damage resulting from sweat. Since power-outages are common, women often cannot work in the night when it is cooler. Instead work usually proceeds in the afternoons under intense heat and humidity.

**Figure 5.5.** Embroidery frame with ornaments.



Source: Field Photos.

Any damage to the fabric from sweat, water spillage or other reasons is deducted from piece-wages. We frequently saw more than one person engaged on one sari, usually a mother with her daughters (or young sons) or sisters or daughters-in-law. Child-care proceeds alongside this work as small children also join in and contribute in whatever way they can.

Although the work is tiring and labor-intensive, there is some room for creative input on part of the worker, especially when a new design is being tested or developed. While trusted and senior artisans are paid more to ensure loyalty, contractors are also able to take advantage of more mundane creative input from all artisans they trust. One mother-daughter pair who do aari-work described the design process in this manner:

D: First, the good artisans (acchha karigar) design the template and make the sample. Then they give the sample to artisans of average quality (chalu karigar) and tell them to make 50 saris according to it. So they look at the sample and mimic it. Or sometimes they [the contractor] will say “change this, its become too heavy, make it a little lighter next time.”

M: Sometimes they also say, “Make something according to your preference.”

Q: You mean if they trust the artisan?

D: Yes. If in the time you work for them, they feel she is a good artisan, then they might ask us to make something on our own (apne man se). Otherwise for those who are “local” (i.e lower skilled artisans) they will repeatedly instruct them, do it like this or like that. (Field Interview 2010\_05\_31\_1)

#### **5.4.2.3 Post-weaving processing of Powerloom Saris**

Perhaps much more than embroidery work, which has a long artisanal history in almost every part of the country, cutting of threads from machine-made saris is an occupation that exists solely because of the availability of cheap labor-power. There are several steps involved in finishing of fabric after it is woven on powerlooms. One step that is often put out to home-based women workers is cutting unwanted threads between design motifs. The way powerlooms in Banaras weave patterns on cloth leaves many connecting threads between spatially separated design motifs on the reverse side of the cloth. These need to be cut before the sari is ready for wear. This step is not necessary in handloom woven saris (See Chapter Four for further details).

While machines to perform this task do exist, much of it is still manually performed by women at home.<sup>13</sup>

Wages for cutting work are decided according to the amount of design work on the sari. Field-work in the Lallapura neighborhood in April-May 2010 revealed the following piece rate system. For plain saris with design on the *pallu* or *anchal*, the piece-rate was Rs. 5. If in addition to the pallu, half the body had design, the rate went up to Rs. 10 per sari. If the whole sari had large motifs, Rs. 20 and if the whole sari had fine work (*mahin kaam*) then Rs. 30 per sari. According to one woman who had been doing this work for a few years wages up to Rs 70-80 per piece were paid earlier for work that today paid only Rs. 30. One reason is likely to be the introduction of machinery in this work. Another could be that the declining in weaving incomes has forced women who earlier performed no market work to undertake any available work for money.

#### 5.4.3 Putting-Out

All observers of the Banaras textile industry have commented on the putting-out system in weaving. This system (described in Chapter Three) is part of the larger system of production which includes all the types of the work shown in Figure 5.3. Ansari master-weavers or master-weavers-turned-merchants and traditional Hindu (typically Gujarati and Marwari) merchants in the city are the key players in this system. After a handloom or powerloom sari is returned to the master-weaver by a job-work weaver or is bought by a merchant, more work may be undertaken on it based on the market demand. The master or the merchant gives the fabric to a contractor who specializes in a certain type of work, say embroidery or patch-work. The contractor assumes responsibility for returning a fixed number of pieces with the

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<sup>13</sup>The thread which is the by-product of the cutting process has to be delivered to the contractor along with the finished sari.

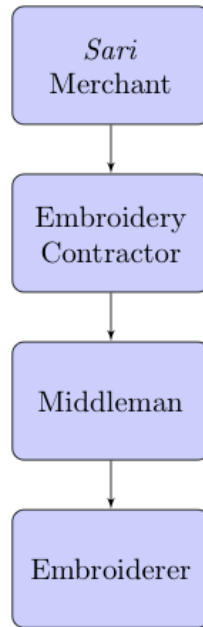
work completed, within a certain time-frame. He then distributes them to home-working women via one or more intermediaries who similarly assume responsibility for the delivery of the product within an agreed-upon time period. The contractor may supply the materials (mainly thread and ornaments) or he may ask the worker to procure them from the market and pay for them later along with the piece-wage. In the latter case the relationship slides from a pure putting out type to something that resembles an independent producer selling her output. However, the work is undertaken under specific orders from the contractor, and elements crucial to independence, such as control over design and over who to sell the product, are missing. Finally, in either of the two cases above, the equipment (needles, wooden mounting frame) and premises remain the worker's.

While middlemen (sex intended) are often the key intermediaries who bring saris to women, in the Lallapura neighborhood we learned that the women themselves also may do this. After finishing morning housework, women go to the *girhast*, deliver the previous day's work and take new work. To accommodate this, *girhasts* have a *gaddi* reserved for women. Figure 5.6 depicts a typical putting-out arrangement in Banaras. At least two persons separate the direct producer from the merchant who commissions the work and the chain may be longer in some instances. The merchants, contractors and middlemen are all men. I did not meet or hear of any women in these roles.

In this decentralized, piece-rate based system, at every stage the putter-outer is concerned only with receiving a certain number of pieces in a certain period of time. For example, one interview with an embroidery contractor revealed that the exact extent of the middleman's operation and the wages he pays to the embroiderers may not be known to the contractor who employs him. During the interview the contractor asked a middleman, who happened to arrive when I was there, how many embroiderers he had working for him. He received no response, upon which the contractor insisted,



**Figure 5.6.** The Putting-Out System in Banaras



“don’t tell me their wages, just tell me how many workers you have.” (Field Notes)  
Though only anecdotal, this exchange does indicate that at times such key issues are left to the person subordinate in the value chain.

The intermediary closest to the worker herself is often a male member of the extended family or a man from the neighborhood. For example, when interviewing one woman who undertook naka-tikki work along with her daughters, we also chanced upon their cousin, a man who supplied them with work. He was a handloom weaver who had turned to this work after a decline in handloom demand:

Q: So you bring the saris here from the *gaddi*?

A: Yes, I give it to the karigar and get it made.

Q: And you keep a margin for yourself?

A: Yes, I make Rs. 5 or Rs. 10 per sari, that’s all.

Q: And the *gaddidar* pays you?

A: Yes, if I am getting a sari made for say Rs. 60 he will pay me Rs. 70.

Then its up to me, if I get 10 saris made every day I make Rs. 100, if 20, then I make Rs. 200. It depends on the production.

Q: Are you weaving also?

A: Yes.

Q: Do you make more in this, or in weaving?

A: That is also all right, this is also OK. In weaving, I will only eat if I work myself with my own hands, and in this, I only have to run around, just distribute the saris and get them made. When 10 people support me...how does a factory run? The employer doesn't run it himself, it works because of the workers in it, does it not? This is like that. If I work with my own hands I will make only Rs. 100 per day, and if I get work done from other workers, the more workers I have, the more income I will have.

Q: How many people do you supply saris to?

A: Right now, 15-20.

Q: And you want to increase this number?

A: If God wishes, it will. If it becomes 100, of course thats good for me.

(Field Interview 2010\_05\_31\_2)

Homeworking women display a keen awareness of their vulnerable position and low bargaining power. In their analysis, wages are kept low by the threat of withdrawal of work, a credible threat given the rising number of women willing to do such work. Observing one respondent working very fast at her embroidering, the interviewer noted:

Q: You work so fast! You must be very used to it.

A: Yes! They [middlemen] tell us, make it quickly, we need to take it back [to the contractor]. If we take long, we won't get work, they will give it to someone else.

Q: How long does it take to do one sari?

A: This one has work worth Rs. 130.

Q: Will it take 2 days?

A: 3-4 days, it depends on how much I work.

Q: Do you do this work all day? How many hours do you do it?

A: I sit at it in the morning and work till the evening.

Q: Do you do housework also?

A: No, they [points to daughters] do the housework. They are all free, so they do it. I only do this. This needs to get done quickly. If we don't complete it in time, they won't give us work.

Q: So do you do any other work?

A: This is all we do.

Q: Who did you learn this work from?

A: I didn't know how to do this earlier. I learnt it from old-timers who used to do it. I used to make *malas* (necklaces or garlands) earlier, wages were very low in that, then I started doing embroidery. (Field Interview 2010\_02\_11\_5)

Another worker identified the cause of low wages in competition among workers as follows:

Nowadays we have to work harder for lower wages. Earlier we could do work worth Rs. 50-60 in four hours. Today we have to work the whole day for the same amount of money. There are people spread all over the place, even in the rural areas doing this work. Previously this work wasn't done in the rural areas. Now the wages for some work are say Rs. 50, then someone will say I can do it for Rs. 30. Then, people will go get the work done by someone who is charging only Rs. 30, why would they go to one asking Rs. 50? (Field Interview 2010\_02\_18\_5)

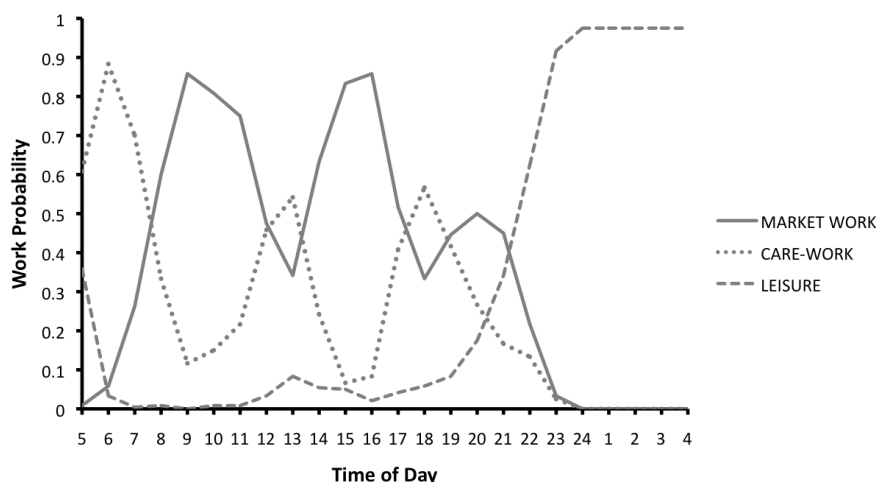
#### 5.4.4 Results of the Time-Use Survey

A common expression used by women interviewed, to describe embroidery and other outside work undertaken for wages, was that it was undertaken in free or spare time, something they did after they were free from all work (*khali samay mein* or *sab kaam se khali hone par*). One simple question that arises here is, how many hours in a day do women actually spend doing embroidery or other market work? As noted earlier, several studies on homeworkers have documented piece rates as well as labor process but it has proved much more difficult to measure the number of hours spent doing this work, although one or two studies do provide estimates (without the benefit of a time-use survey). The major reason for the difficulty is that the women themselves see no need to keep track of their hours. Further the day is broken up by the rhythm of care-work. While they do see that a full day's work is earning them no more than a pittance, they cannot report hourly wage rates. This situation also suits the employers since it sustains the myth of spare-time activity and hides the actual hourly wage rate. A tailored time-use survey which allows us to bring together hours spent, work completed and piece-rate received is the only way around this problem.

In a wide variety of occupations in our study, as well as earlier studies, women report earning around Rs. 30-40 for a full day's work (Sengupta et al., 2007). While men are rarely found in exactly the same occupation as women due to gender-based segregation, wages for men, even in unskilled manual labor rarely fall below Rs. 80 or 90 a day. As I describe in this section, the Banaras time-use survey also reveals that women spend the equivalent of a full working day in return for extremely low wages. Let us first take a look at the structure of the working day, followed by estimates of hourly earnings. Women engaged in embroidery and other post-weaving textile work, such as finishing of fabric, are found to spend 9 (+/- 3) hours in paid market work (N= 147). But this working day is split into three shifts structured around the

rhythm of care-work. Figure 5.7 depicts the average time-use pattern of 32 women over a 24-hour period starting at 5 a.m.

**Figure 5.7.** Structure of the working day for home-based women workers.



Source: Time use survey, Banaras.

A typical day starts with two hours of care work which mostly involves cleaning the house and cooking breakfast as well as getting children ready for school. By 7am there is a 50% chance that market work has started. It continues till 11am or 12 noon at which point lunch must be prepared, dishes cleaned etc. From 2pm to 5pm is a second shift of market work, followed by preparation and eating of dinner. After dinner, electricity permitting some women put in a further two or three hours of work till 9 or 10pm. Evening work often depends on deadlines to be met. The spirit of the tempogram shown in Figure 5.7 is captured by the following respondent:

Q: How many hours do embroider in a day?

A: Whatever time I get after cooking three meals, I spend on this.

Q: When do you wake up?

A: 5-5:30am

Q: And when do you sleep?

A: Not before 11pm or 12 midnight. I keep working at this [*isi par rahte hain*]. (Field Interview 2010\_02\_11\_20)

The long workday is sustained in part by economic necessity and in part by the ideology that women must always be productive and cannot be seen to be idle. These two aspects are intermingled in this mother's response:

It doesn't look good if our daughters don't work and just sit around like others after studying. If there isn't work, it doesn't feel right, if there isn't a sari being worked on, it doesn't feel right. Even small children are at it. Prices are rising so fast, we can't make ends meet. And there are people even poorer than us. (Field Interview 2010\_02\_18\_9)

A woman powerloom weaver in Mau noted that women have to work to support the family regardless of whether a man is around or not. When she was asked if, in Mau, there was a social stigma attached to women operating powerlooms (since it is seen as a man's work in Banaras), she replied vehemently

No! In fact people will criticize the women if she does not work. They will say, "his wife doesn't work, just lives off his earnings." They will criticize her mother saying she hasn't taught her daughter any skills. (Field Interview 2010\_04\_21\_3)

Several observers of home-based work have noted that women prefer this work since it allows them flexibility to integrate it with their housework. This is undoubtedly true of Banaras as well, with the added proviso that social restrictions prevent women from leaving the home other than for the purposes of visiting relatives, occasional pleasure outings etc. Here is how a married woman with two teenage daughters, whose husband was a powerloom weaver, described her decisions to take on cutting work (W=woman, H=husband):

Q: So saris are delivered to your home for cutting?

W: Yes, when I see that I have time, I am free, then I ask for the work. For example, today I don't have time. I just cooked and we ate lunch. I still have to wash clothes. So I won't ask for work today. I will clean the house, do the dishes, wash the clothes, by then it will be evening.

H: Our main work is that one, downstairs [i.e. weaving]. That is the main thing, everything else is supplementary. (Field Interview 2010\_02\_11\_14)

The husband's remark indirectly also emphasizes that for those women from weaving households whose husband (or more rarely son) weaves, yarn-work assumes a status equal to that of housework in importance. Even though embroidery, cutting and other work means cash in hand for the women, yarn work is the married women's primary duty. Unmarried girls, widows or separated/divorced women however have different priorities and usually devote a large proportion of the day to market-work. Although it has status equal to housework, yarn work typically takes much less time (three hours on average per day) because bobbins are wound everyday only in amounts necessary for one day's weaving. This figure of 3 hours per day which emerges from the time-use survey matches well with the results of an independent survey we performed of seven weaving households to get an estimate of the amount and value of women's labor in weaving (2.7 hours per day). The actual amount of time varies by type and denier of yarn, finer yarn and silk yarn taking longer than coarser and non-silk. Typically the wife undertakes this task the first thing in the morning after early morning housework responsibilities are done. She sits for two or three hours at the charkha (or its mechanized equivalent) and produces enough bobbins so that the husband can weave for the rest of the day. If she anticipates being unable to do the work on a given day, she may sit for longer and complete a larger amount the previous day.

### **5.4.5 Value of Women's Work**

#### **5.4.5.1 Unpaid Work**

Of the four types of work described in Section 4.4.2, preparatory yarn work is the only one that is unpaid, i.e. women are not paid directly for doing it. As noted in Section 4.2, unpaid work performed in home-based artisanal industry was included for the first time in the definition of home-based work by the Independent Group on Home-Based Workers, expanding the ILO-1996 definition. This work is widespread in informal industry. It is largely performed by women, and like most women's work suffers from invisibility. There is a further theoretical problem involved since it is not directly performed for wages or on own-account. The National Sample Survey Organization does collect data on presence or absence of unpaid family workers in its establishment as well as household surveys. However, it does not make any attempt to assign market value to their work. Their contribution to value added appears in what remains of the firm's earnings after deduction of wages, interest and rent. Since it is mostly women who perform this work, it is also viewed as an extension of the wife's duties to help her husband. Whatever virtues may exist to this cooperative labor process, within the context of the putting out system what it means is that the entire family's labor can be purchased for the piece rate paid. As we saw in Chapter Three, this point is not lost on the weavers, who are quick to point out that Rs. 100 a day that they earn is contingent upon the whole family's labor. While it is well-known that women's unpaid work is crucial to weaving and this fact is also readily accepted by male weavers, no studies have attempted to impute a wage-rate for this work. As Harriss-White (2003, p. 116) notes, for sex-sequential labor processes, as weaving is, it is difficult to calculate separate male and female productivities.

There are two ways to assign a rupee value to the female contribution in weaving. One is to measure the difference between piece-rates received by job-workers who work at home and loomless weavers who work on an employer's loom in the employer's



home. In the former case yarn work is performed by the weaver's wife and in the latter, it is not. This comparison is difficult to do directly because piece-rates vary from sari to sari and from master to master and the comparison would have to be done on exactly the same sari. Here I adopt the more indirect method of approaching job-work weavers and asking them what would earn for the same sari they are now weaving in they were to work in the master's workshop. We then compare this number they offer to the piece rate they are receiving as job-workers. This method is not fool-proof, but does give us a start. A second method is simply to ask how much it would cost to get preparatory yarn work done outside the home, in which case it would have to be paid for. In a small sample of seven job-work weavers who own their own looms (see Table 5.2), we discovered that if the weavers were to weave the same fabric on the master's loom in the master's house or workshop, they would receive 70% of the wages they received for weaving in their own house. This difference, about Rs. 210 in this case, represents payment for women's work as well as other costs incurred by the weaver, such as maintenance of the loom, electricity, rent, water charges etc. How much of this amount could be imputed to be women's wages? Weavers reported that getting the same yarn work that their wife did, done outside would cost on average Rs. 92 per sari. Thus approximately half of the premium in piece-rates that job-workers receive is accounted for by payment for women's work and half for other costs. We should note that this premium is rationalized by weavers as well as master-weavers in precisely the terms we have outlined even if relative compensations for women's work versus premises are not always articulated. If one takes this figure of Rs. 92 as a proxy for the market value of women's unpaid work, then factoring in the number of hours spent on yarn-work, it amounts to Rs. 3.6 per hour on average.

**Table 5.2.** Estimating the value of unpaid work in weaving.

Variable	Mean (SD)
Job worker piece-rate	700 (81)
Time (Days)	9.4 (0.7)
Man hours per day	10.4 (0.7)
Woman hours per day	2.7 (0.3)
Market value of yarn work	91.7 (14.2)
Loomless piece-rate	489 (55)
Job work minus loomless	210 (43)

Source: Field Survey. N = 7

#### 5.4.5.2 Paid Work

Mies (1982) notes that women of Narsapur who have internalized the housewife ideology are nevertheless quite aware of the fact that this ideology contributes to their exploitation, because they see lower caste and Dalit women who are not subject to the same restrictions earning more by working outside the home. In Banaras, women displayed that they were conscious of their exploitation by referring to embroidery work as *begaari*.<sup>14</sup> Begaari historically referred to forced unpaid work performed by share-croppers and other tenants for their landlords. Today it is also used to refer to extremely low-paid work. But exactly how low is low?

It is easier to estimate wage rates for paid work as compared to unpaid yarn work described above, since piece rates that women receive are known. But there are other difficulties. As with unpaid care work, the women themselves see no need to keep track of their working hours, supporting the assumption that it is seen as time with no opportunity cost. As one home-based aari-worker in the Lallapura neighborhood notes when describing her daughter's work:

She is a girl, if she just sits around she will only get bored. Its better, we think, just do whatever work you get. If we don't do it, we won't get any

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<sup>14</sup>“This work does not pay according to the effort involved. Its just begaari for sitting at home” said one woman.

money, if we do something, at least we will get Rs. 10. (Field Interview 2010.02.18-16)

This situation also suits the employers since it sustains the myth of spare-time activity and elides hourly earnings.

The time-use survey allows us to partially circumvent these problems and calculate hourly wage rates for embroidery and cutting work. But an important supply-side factor that the survey lacks resolution to measure is that women engage in joint production of market and non-market goods, i.e. they are often engaged simultaneously in paid and unpaid work. Thus if one looks only at market measures of productivity one arrives at an incomplete understanding of women's productivity. Field observations indicate that this is true for homeworking women in Banaras as well. But despite its limitations, the time-use survey reveals very low hourly earnings (approximately half the wage for unskilled labor) which indicate that women in the informal economy may be disadvantaged with respect to men because their economic activity is seen as subsidiary and their time as less valuable than men's time. While direct comparisons between men and women doing the same work are difficult in Banaras, such comparisons can be undertaken at the national level (see Chapter Six).

Keeping these caveats in mind we calculate hourly wages. The number of hours women reported working in a day are added over the number of days they reported taking to finish a piece (embroidery) or the number of saris they finished in a day (cutting). To this we add the number of hours of help they received on the sari from other family members (excepting children below 10 years of age). The piece-rate is then divided by the number of hours of labor input to obtain the hourly wage. Piece rates, hours per piece and hourly wages for the three occupations are reported in Table 5.3. Although aari embroidery work took longer, it was also paid at a higher piece rate, such that hourly wages were higher in aari (Rs. 5.6) as compared to nakatikki (Rs. 4.2). This difference was statistically significant ( $p < 0.001$ ). Piece rates

**Table 5.3.** Average (sd) piece rates in embroidery and cutting

Activity	Naka-tikki (N=58)	Aari Work (N=21)	Cutting (N=14)
Piece Rate (Rs)	71.0 (47.8)	134.3 (57.0)	18.5 (3.7)
No. of Hours Per Piece	18.8 (12.9)	24.6 (9.0)	3.8 (1.6)
Hourly Wage (Rs)	4.2 (1.4)	5.6 (1.8)	5.0 (1.6)

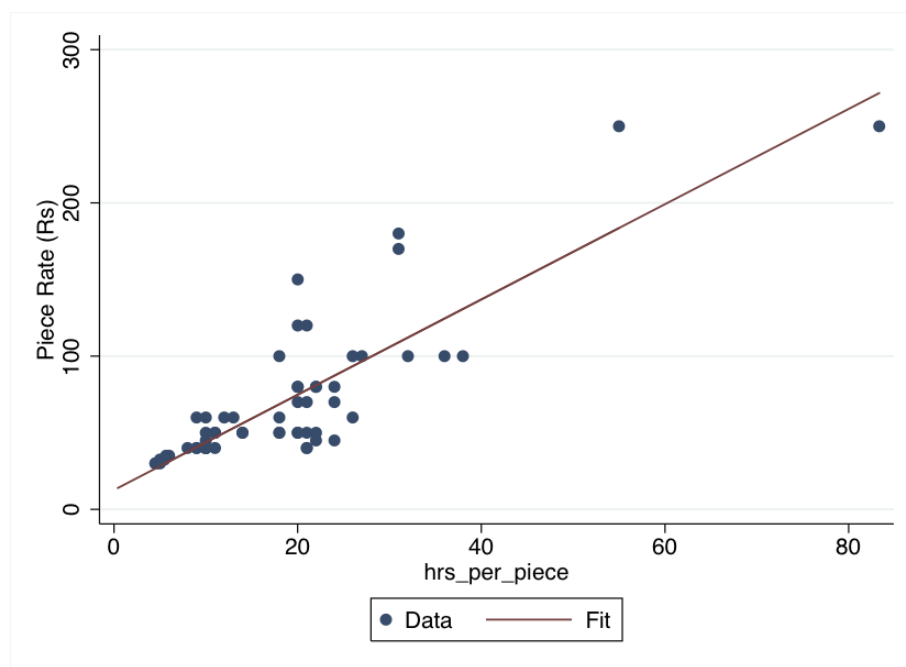
Source: Time Use Survey.

for cutting are much lower but it takes much less time to finish a piece since the work only involves sniping unwanted threads from between design motifs. Hourly wage rates were found to be the lowest in naka-tikki work, and indeed this work also has the reputation of being the least well-paid in addition to being very strenuous.

The variation in number of hours it takes to embroider a sari arises out of the type and extent of embroidery required. Coarse work takes less time as compared to fine work, saris with plain bodies take less time than those with design all over the body and so on. This variation can be used to ask the question: do hourly wage rates depend on how coarse or fine the work is. Figure 5.8 plots piece rates against the number of hours women reported taking to finish a piece. The relationship appears to be well fit by a linear function ( $R^2 = 0.7$ ) suggesting that the hourly wage rate (the slope of the line) is constant, i.e. it does not depend on the type of work undertaken. Clearly piece rates are adjusted only to take into account the additional labor input required such that women are not able to earn more than Rs 4 per hour. In fact in no occupation did we find women earning much more than Rs. 5 per hour. Similar figures are obtained for work as diverse as cutting vegetables for pickles, making *bindis*, fans and mats (data not shown). This figure is half the hourly wage rate that men receive for weaving and also far below the Uttar Pradesh State minimum wage rate for every occupation other than carpet weaving and glass bangle making.

Seeing such low wage rates, one may object that this is a result of overestimating the labor input. One source of overestimation could be that the hours of help provided

**Figure 5.8.** Relationship between piece rate and productivity.



Source: Time Use Survey.

to the main worker have been added without discounting them in any fashion. The quality of input will probably vary between an experienced worker and her daughter who may just be learning the work. To check for this possibility we calculated hourly wage rates separately for those women who did naka-tikki work by themselves. We obtain a figure of Rs. 4.58, only marginally higher than that obtained for those who had help. Further independent corroboration that these estimates are correct comes from a contractor who puts out embroidery work to women via middlemen. He notes:

To make [i.e. embroider] an ordinary sari it takes 2 days. We pay 60 rupees as wages. For 60 rupees he will perform 2 days work. If he works hard for two days he can finish it, if he works for at least ten hours. Wages

are very low in Banaras. People try to show that wages are high here, but that is not at all the case. (Field Interview 2009\_12.23.4)<sup>15</sup>

Finally, though women usually claimed that they did not account for how many hours they worked, one naka-tikki worker during an interview did reveal her own estimation of how much she was able to earn. The following exchange illustrates how this woman had thoroughly monetized her conception of time.

Q: How long will you take to finish this work?

A: It will take 5-6 days. What can we do, things are so difficult.

Q: How much do you get for it?

A: Oh, just 150-200 rupees.

Q: How many hours a day do you work on this?

A: Well, in one day maybe 20 or 15.

Q: 15-20 hours?

A: No, in a day. [i.e. she earns Rs. 15-20 a day. She thinks she is being asked how much she earns per day, when we are trying to ask how much she works per day]

Q: How many hours do you work on this?

A: In an hour at most Rs. 2-3, that is all. (Field Interview 2010\_02.11.16)

The confusion in the above conversation results from the fact that even though the woman is being asked how much she works, she only answers in terms of how much money she makes. What emerges is the clear idea that the respondent has regarding the worth of her time. In fact she measures her time in terms of rupees earned.

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<sup>15</sup>It is interesting to note, in passing, that the respondent uses the masculine gender to describe the worker, even though elsewhere in the interview he has mentioned that this work is performed overwhelmingly by women.

## 5.5 Discussion and Conclusion

The last two decades have seen a rise in academic, political and policy work that aims to improve the conditions of work for home-working women. Judging by contemporary reality, there is along way to go on this front, despite some success by SEWA, HomeNet, WIEGO and other smaller groups. The present study contributes to this work by focusing on an understudied population, women workers in Banaras, who typically labor in the shadow of men's work in this famous industry. Women constitute an integral part of the textile industry in Banaras via their role as unpaid family workers in weaving and paid workers in embroidery and other work allied to weaving. At typical Ansari woman performs 2-3 hours of preparatory yarn work and 7-9 hours of paid market work every day, in addition to her care-work responsibilities. Interviews with married, single and divorced/widowed women show that paid work is undertaken by all three types, but yarn work is typically a married woman's responsibility. Time-use surveys reveal, as might be expected, that women interweave housework with market work, effectively to put in two working days (16 hours per day). Interviews reveal that women carry conflicting or contradictory perceptions of their work. On the one hand, like men, they see their paid work as spare time work, as something that supplements the family's income. On the other hand, they are also aware that they work long strenuous hours for very little pay. At least one woman, as we saw, also displayed accurate knowledge of how much she earned for an hour of work.

Hourly wages for this work are widely perceived to be very low though it has proved difficult to establish them with certainty. Combining piece rates, time taken for complete pieces and hours spent on a piece, we arrive a hourly wage estimates which are extremely low, though consistent with the few such rates reported in the literature. Further women's unpaid labor which contributes to marketed commodities does not even have the "benefit" of having a market value, however low, assigned to

it. It is simply taken for granted, a part of wifely duties. Employing two indirect methods, the difference in piece-rates paid to job-workers and loomless weavers, and the market value of preparatory yarn work, we arrived as rough estimates of the rupee value of yarn-work, which again is not so different from typical hourly rates paid to women. Several factor can lead to wage rates of Rs. 4-5 an hour. The literature has focused on lack of education (or skills) and social restrictions on mobility both of which segregate women into lower paying occupations. Here we advance patterns of time use (resulting from joint production of market and non-market goods) and perceptions of the value of time, as two more factors.

A common time-based explanation for low wage rates is that women's productivity suffers due to overlapping activities and frequent interruptions. Although our time-use survey lacked resolution to resolve these issues satisfactorily, interviews and field observations indicate that child-care is the most common secondary activity being performed when women do market work and in instances where the child is old enough to help in the work (age five and above) it usually does. So, rather than taking away from productivity, this "secondary activity" may even contribute to it. As regards interruptions of work, the time-use results show that women typically work in 2-3 hour segments, but it lacks the resolution to say if there are micro-level interruptions which further fragment work-time. Since these factors may operate regardless of occupational segregation, one might predict that male embroiderers receive higher wages for very similar work. Or what is more likely, once a certain type of work starts being performed by women, the wages paid for it decrease and it starts been seen as lower skilled work. The devaluation of women's time can thus be bound up with a devaluation of their skills. The present study dos not allow us to make such direct comparisons, but this will be part of future work. Finally, in placing the use and conception of time at the center of the story, I do not mean to overlook other well-studied factors such as barriers to education, low bargaining power etc. Rather,



by highlighting an issue that is frequently mentioned in the literature as an aside, I wish to elevate it to the same status as other more well-studied problems.

## CHAPTER 6

### GENDER EARNINGS DISPARITIES IN INDIA'S INFORMAL ECONOMY

#### 6.1 Introduction

Gender disparities in earnings and their causes are well-explored for OECD countries and to some extent for formal sector wage-work in developing countries (Anker and Heim, 1986; Blau and Kahn, 1992, 2000; Gunewardena, 2006; Jacobsen, 2003; Kabubo-Mariara, 2003; Mutari et al., 2001; Treiman and Hartmann, 1981) but much less work has been done on the informal economy, even though it accounts for the major share of employment in many developing countries.<sup>1</sup> The predominance, in the informal economy, of self-employment and piece-rate work over conventional wage-work means that the gender earnings gap is not simply a wage gap. Estimating gender disparities entails comparing earnings of male and female own-account workers (who sell their own products) and piece-rate workers (who undertake work on sub-contract), neither of whom are reflected in wage or salary data.<sup>2</sup> While labor force or house-

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<sup>1</sup>For the purposes of this study I follow the National Commission for Enterprises in the Unorganized Sector (NCEUS) in defining the informal economy:

The [informal sector] consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers (Sengupta et al., 2007, p.2).

The informal economy accounts for 75% of manufacturing employment in India. Across the developing world, 48 percent of non-agricultural employment in North Africa, 51 per cent in Latin America, 65 per cent in Asia, and 72 per cent in Sub-Saharan Africa is in the informal sector (Jhabvala et al., 2003).

<sup>2</sup>These self-employed workers may work by themselves or in turn employ unpaid family members or more rarely hired workers. This study is restricted to earnings of self-employed workers, not their employees.

hold surveys may report earnings from self-employment, they usually do not carry information such as assets owned by the informal firm or number of workers in the firm. Firm-level surveys do carry such information and are more suited to identifying gender disparities in earnings of self-employed workers, but they have rarely been used for this purpose. In this study I use the Indian National Sample Survey of informal manufacturing enterprises, a stratified random sample survey of 82,897 informal firms (Government of India, 2008b). Using a sub-sample of 7657 firms belonging to the textile sector<sup>3</sup> I ask if self-employed women earn less than their male counterparts even after controlling for level of education, hours worked, size of the firm, assets owned, occupation and other relevant variables. The NSS database is a well-known and established source for informal sector statistics but no prior study has, to my knowledge, used it to study gender disparities.

In addition to the well-known reasons of occupational segregation and human capital differences, self-employed women can be at a disadvantage vis-a-vis men due to discrimination in product and factor markets. Further, since the majority of self-employed workers are home-based, factors such as restrictions on mobility and asymmetric responsibilities for care-work are important as well. Gender disparities along all these dimensions may lead to lower earnings from self-employment for women. Disadvantages experienced by self-employed women workers will be manifested in higher input prices, lower productivity and lower output prices. In its informal enterprise surveys the NSS reports “Gross Value Added” (GVA) as the difference between a firm’s revenues and its non-labor costs. Here I adopt the strategy of comparing monthly GVA across firms headed by male versus female owners.<sup>4</sup> Thus in the semi-

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<sup>3</sup>NIC code 17111 to 17309. Garment manufacturing is excluded from the definition of the textile industry.

<sup>4</sup>For the majority of informal enterprises (86%) that employ no workers other than the owner or only employ unpaid family workers, GVA represents the family’s earnings from self-employment. In principal GVA can be decomposed into imputed wages and profits, in practice GVA represents earnings from self-employment since most informal firms operate at the margin of survival and

log regression analysis presented below, monthly GVA occupies the place usually occupied by hourly earnings in studies estimating the gender wage gap. I find that monthly GVA for women-owned firms is 52% less than that for men, controlling for level of education, assets owned, number of paid and unpaid workers, hours worked, type of sub-industry and region of India.

Motivation for this study also comes from findings of a field research project among home-based women performing embroidery and other piece-rate textile work in Banaras, the details of which are reported in Chapter Five. In Banaras, as elsewhere, women integrate unpaid care-responsibilities with market work in their working day. Oral time-use diaries from thirty-two women reveal that women spend up to nine hours a day on market work. Interviews with a subset of surveyed women and their husbands show that this work is seen as a spare-time activity and women's time after completion of care-work is seen, by men as well as women, as having no opportunity cost. The perception of "spare-time activity" is aided by the fact that no records are kept of hours worked. When hours worked and piece wages paid are both taken into account, hourly earnings are found to be around Rs. 4-5 (8-10 cents) per hour. This is less than half of what men earn even in unskilled manual work. In addition to the commonly understood mechanisms of gender discrimination, the Banaras data suggest that self-employed women are likely to be at a disadvantage due to how they use their time and how that time is valued by them as well as their husbands and by the outside world. To the extent that time use is a relevant factor in generating gender disparities, a prediction from these findings is that earnings of self-employed women may fall short of male earnings if women work by themselves or with unpaid family workers, but women who are able to hire wage-workers may suffer from less of a gender gap. This is because in the former case the woman's market-based work is

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primarily serve the consumption needs of the owner Sengupta et al. (2007, p. 89). For the minority of firms that hire wage-workers, GVA also includes paid wages.

likely to be viewed as “spare-time activity” and productivity in market-work is likely to be lower due to asymmetric care responsibilities (Becker, 1985; Mies, 1982) but these factors would be of less importance in the latter case since hired workers are less likely to be burdened with primary care-responsibilities. Analysis of NSS data confirms this hypothesis. Stratification of the baseline regression by firm type and adding appropriate controls for number, sex and full-time or part-time status of hired workers, shows that the gender gap is large (52%) and statistically significant for women who work on their own but much smaller (6.5%) and statistically insignificant for women who employ hired workers.

The remainder of this chapter is organized as follows. Section 6.2 reviews the background on sources of gender disparities among self-employed workers and the gender earnings gap in the informal sector. Section 6.3 describes the data and methods used in the study. Section 6.4 presents results of a regression analysis of NSS data. Section 6.5 concludes.

## **6.2 Background**

### **6.2.1 Sources of Gender Disparities Among Informal Sector Workers**

The extensive literature on the gender wage gap in OECD countries demonstrates that gender-based inequalities operate on both supply and demand sides of the labor market. Supply-side explanations emphasize differences in education, skill-levels, hours of work, ability to work outside the home and productivity differences resulting from the fact that women have more responsibility for family care. On the demand-side of the labor market are norms lead to hiring preferences (biased for or against women depending on whether the work is seen as masculine or feminine) which lead to occupational segregation, as well as differences in valuation of men’s versus women’s skills and their time (Albelda, 1986; Blau and Kahn, 2000; Jacobsen, 1998, 2003; Mies, 1986; Treiman and Hartmann, 1981). A point of wide agreement among writers in

very different intellectual traditions, studying different types of women's work, is that the division of labor in the household plays a crucial role in shaping gender disparities outside the home (Antonopoulos and Hirway, 2010; Becker, 1985; Mies, 1986). The latter note:

Women's burden of unpaid domestic work, their poor access to education and skill development, restricted horizontal and vertical mobility and restricted choice of work- all of which are the consequences of unequal division of unpaid domestic work and the sociocultural norms- result in women's inferior status in the labor market (p. 8).<sup>5</sup>

Most of these findings are relevant to self-employed workers in the informal economy as well, but a separate investigation of gender disparities in the informal economy is important not only because the majority of women in developing countries work in this sector, but also because there are important institutional differences between the formal and informal economies, that can result in different forms of gender inequality.

As own-account workers women participate in factor and product markets, purchasing inputs and selling output. Further the vast majority of women work from home. Thus in addition to the labor market, product and capital markets, not to mention the family, are important loci of gender discrimination. Non-governmental organizations such as the Self-Employed Women's Association (SEWA) and Women in Informal Employment: Globalizing and Organizing (WIEGO) have intervened in these markets by creating institutions to aid access to credit and marketing of finished goods (Bhatt, 2006). Further, home-based work, even as it allows women to integrate

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<sup>5</sup>Chichilnisky and Frederiksen (2008, p. 300) make the same point:

The idea is that asymmetric information forces firms to offer labour contracts, which take incentive problems into account. Firms will offer different compensation to men and women if the firms expect men and women to differ systematically in labour allocation in the household (p. 300).

paid and unpaid work within a working day, also creates new information asymmetries and vulnerabilities that women in formal sector wage-work do not face. These include reliance on intermediaries for inputs and sale, ignorance of market prices and opportunities, and integration into long (at times transnational) sub-contracting chains (Balakrishnan, 2002; Beneria and Roldan, 1987; Mies, 1982). It is also possible that women with family responsibilities or other constraints on mobility are more likely to undertake home-based informal work. Such selection forces are not expected to operate on men and can be another cause of gender disparity in the informal economy.

Connected with the question of discrimination in product and factor markets, both as a cause and a consequence is the question of occupational segregation. In addition to segregation at the industry level which limits women to “natural” extensions of housework, such as food, textiles, garments, and paid domestic and care work, it is also well-known that many industries have a gendered technical division of labor into “high skilled” and/or supervisory male tasks and “low-skilled” female tasks. Table 6.1 offer a conceptual frame to think about horizontal and vertical (hierarchical) divisions of labor in society as well as the workplace. Women are generally found to be segregated vertically in both social and technical terms.

**Table 6.1.** Division of Labor Hierarchies

Div. of Labor	Horizontal	Vertical
Social	Occupations of equal worth (doctors and lawyers)	Occupation of unequal worth (Engineers and Embroiderers)
Technical	Tasks of equal worth (machinists and welders)	Tasks of unequal worth (cutting and sewing)

Further, an important contribution of feminist scholarship as well as the women’s movement has been the questioning of the concept of skill itself. The Sengupta Commission notes that jobs performed by women may be valued as “low skill” even

if they involve “exceptional talent and years of informal training” (Sengupta et al., 2007, p. 84). Thus for example, in the textile industry, “Hand embroidery done by women was the most skill and time intensive, but paid the lowest wages, i.e. women’s skills were systematically undervalued.” Or similarly

In the ceramic industry or in brick-kilns, preparation of the mud or clay is a skilled activity. If the consistency of this raw material is not correct, the pottery will disintegrate and the houses built of the brick would collapse. This work is done by women but is valued as one of the lowest...(ibid. p. 84)

Such examples clearly point out that only human capital based explanations wherein women are seen as being deprived of skills, are not sufficient and may even contribute to eliding the skills and knowledge women possess. One could hypothesize that while the lokavidya of male artisans and workers is rendered invisible due to a discourse of knowledge dominated by formal knowledge (Chapter Two), women’s knowledge is *doubly veiled* because even the work that women perform is invisible, leave alone the knowledge upon which that work is based. Thus while it may be true that differences in skill and productivity lead to occupational segregation, it seems equally true that segregation of otherwise equivalent tasks into male versus female activities leads to differences in valuation of these tasks.

Additional mechanisms of gender inequality specific to women working from home, such as devaluation of work-time as spare time, emerge from the extensive literature on home-based work already discussed in Chapter Five (Bajaj, 1999; Balakrishnan and Sayeed, 2002; Beneria and Roldan, 1987; Boris and Prugl, 1996; Chen et al., 1999; Home Net, 2006; Menefee-Singh and Kelles-Viitanen, 1987; Sudarshan and Sinha, 2011). These workers are particularly vulnerable because they are less likely to be counted in official labor force or establishment surveys, are often not covered by labor laws or are harder to reach with labor legislation. Efforts of NGO’s working on the



rights of home-based workers have led to the ILO's 1996 Convention on Home Work which officially recognizes a piece-rate worker as an employee to be covered by labor laws (ILO, 1996). But the convention has been ratified by only seven countries so far (not including India). Problems also remain with its implementation because in practice the boundary between own-account work and piece-rate work can be fuzzy (Unni and Rani, 2005).

### **6.2.2 Measurements of Gender Earnings Disparities in the Informal Sector**

Compared to the vast literature on OECD countries and a smaller literature on formal sector work in developing countries (Anker and Heim, 1986; Gunewardena, 2006; Kabubo-Mariara, 2003), direct measurements of gender disparities in the informal sector are rare. And studies focussing on self-employed and piece-rate workers are even rarer. Some of these studies are analyzed by Sethuraman (1998) in a cross-country meta-study on gender disparities in the informal sector. He reports that in Brazil women earn 34% of men's income, while in Mexico it ranges from 55% for self-employed workers to 75% for wage-workers. In Bombay the ratios were 53, 58 and 46 % for self-employment, regular wage-work and piece work respectively. A few of the studies reviewed by Sethuraman (1998) also attempt to identify causes of the earnings gap. Research on self-employed men and women in Abidjan concludes that differences in capital (physical and human), legal status, age of enterprise, and geographical location explain around half of the differences in profits between male and female owned enterprises. It is striking that in discussing additional reasons for lower productivity among women Sethuraman omits any mention of joint production of market and non-market goods despite the fact that later in the paper he notes the constraints placed by responsibilities for care-work. Apart from this study, most other work pertains only to wage-workers and is not directly relevant for our purposes. For

example, Oostendorp (2004) uses cross-country ILO data between 1983-1990 for 80 countries and 161 narrowly defined occupations to investigate whether gender wage gaps widen or narrow with an increase in GDP per capita and increased trade and FDI flows. The author concludes that the gap has been narrowing with economic growth, though the effects of trade liberalization and FDI flows are more ambiguous. Jacobsen (2003) provides hourly earnings ratios in manufacturing for a set of 38 developed and developing countries (once again India is absent). The average ratio across all countries is 0.79, with no significant differences between developed and developing countries. Specifically addressing the informal sector, Tansel (2000) using 1994 Turkish Household Expenditure data, finds gender wage differentials of around 44% to the advantage of male informal workers.

Focusing on India, Hahn (1996, p. 225), based on a 1986 report of the National Commission on Self Employed Women and Women in the Informal Sector concludes that “in all informal sector categories women’s earnings are less than half of men’s, with those of home-based workers the lowest.” But recent evidence of this is lacking. Harriss-White (2003) does directly address the issue of discrimination in the Indian informal economy but her principal interest lies in identity (caste) based discrimination that arises out of the fact that the informal economy is organized via social regulation as opposed to State regulation. By social regulation is meant community norms, caste rules etc. that govern entry into trades, acquisition of skills, access to credit and so on. Although gender-based discrimination can also result from such community norms Harriss-White does not address this issue in depth, simply noting that women’s wages for “jobs with the same kind of effort and skill as those done by men vary from 40 percent lower (thread workshops), through 60 percent lower (in rice mills), to 75 percent lower (in twisting factories).” (p. 116) Chakravarty (2004) reports the findings of a small survey of eight garment manufacturing firms in Hyderabad which show that wages for female tailors are around 80% that of male

tailors. Employers also report preferring female employees for well-known reasons to do with docility and “sincerity.”

## **6.3 Data and Methods**

The 62nd Round of the Indian National Sample Survey conducted in 2005-2006 includes firm-level data on 82897 enterprises in the informal manufacturing sector. This is a stratified, multi-stage random sample survey representing an estimated 17 million firms and 36 million workers. A sub-sample corresponding to the textile industry is selected on the basis of the 2004 National Industrial Classification (NIC) codes (17111 to 17309). The sample is restricted in this fashion to reduce variations in productivity resulting from differences in capital-labor ratio, skill levels and other features of industrial organization rather than from gender or employment relations. The sample is further limited to firms employing 10 workers or less (paid and unpaid), in order to conform to the ILO definition of the informal sector. The final sample analyzed here consists of 7657 observations, representing an estimated 2.5 million firms. Frequency weights are applied to generate population estimates.

### **6.3.1 Regression Models and Variables**

The dependent variable in all models is  $\log(\text{monthly GVA})$ . The estimation technique is OLS with standard errors clustered on seventy-two geographical regions of India. The baseline model, consisting of all informal textile firms is stratified into three categories, “single worker,” “family firms,” and “wage firms,” depending on if the owner works by himself/herself, with unpaid workers only or with unpaid and paid workers. Finally, the subset of firms which undertake work on sub-contract are analyzed separately for the effect of sub-contracting on GVA stratified by gender of the working owner.

Regression variables are described below along with their economic significance. Descriptive statistics for all variables are provided in Appendix Table B.1

Log(monthly GVA): Earnings of own-account and piece-rate workers are not as easy to establish as those of wage-workers. Here I make use of the fact that NSS data on informal manufacturing firms includes information on “Gross Value Added,” which is the difference between the firm’s revenues and its non-labor costs (costs of raw materials, electricity, maintenance of premises etc). GVA is thus a composite of profits and wages. For 63.2% of self-employed women and 14.8% of men, who work on their own with no paid or unpaid workers, GVA simply refers to personal earnings, whether obtained through own-account or piece-rate work. For 33.7% of women and 61.7% of men who work only with unpaid family workers GVA is composed of imputed wages of family workers and profits. For firms which employ wage-workers (23.4% male-operated, 3% women-operated), GVA can be decomposed into paid wages, imputed wages and profit. However, since my purpose is not to identifying a *wage* gap between male and female workers, but rather to quantify the difference in performance of male and female-owned firms, aggregate GVA is adequate for my purposes (it was verified that subtraction of paid wages from GVA did not alter the results).

Female: Dummy capturing the sex of the working-owner of the informal firm. The sign and magnitude on the female dummy measures the gender gap in earnings.<sup>6</sup>

Education of the working owner: This is a categorical variable with four categories: no schooling, schooling up to the primary level, up to the middle level and up to high school or beyond. Most working owners are in categories below high school

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<sup>6</sup>This approach restricts the gender gap to being captured only by an intercept shift and does not measure gender-differentiated returns to education and other variables, which is part of ongoing work.

level (see Appendix Table B.1). Standard human capital theory leads us to expect a positive relationship between level of education of the owner and  $\log(\text{monthly GVA})$ .

Number, type and sex of workers: Separate variables are included for the number of paid and unpaid, male and female, full time and part time workers. In addition to giving estimates of productivity for different types of workers, these variable also control for disparities arising from the fact that women-operated firms earn are more likely to employ part time or female workers.

Urban dummy: Since urban production is associated with greater access to key inputs such as electricity and other infrastructure, this may have a positive impact on earnings.

Contract dummy: The majority of textile firms undertake work on contract for a larger unit. Such sub-contracting or putting-out can result in a lower share of value-added going to the producer, since part of it is captured by middlemen.

Hours of operation: The number of hours a firm operates in a day is expected to have a positive relationship with earnings. Since women work fewer hours this is an important control. Ideally we would like to have hours worked by each worker in the firm, but NSS firm surveys do not carry this information.

$\log(\text{assets})$ : Assets are expected to be positively correlated with GVA. To reduce potential problems with endogeneity (since income also determines assets), assets acquired during the course of the reference period are subtracted from the total, leaving only assets already present at the beginning.

Industry dummies: It is well-known that part of the gender gap in earnings is explained by occupational segregation. In order to know if the gap persists after accounting for this fact eleven sub-industry dummies are included. Further labor productivity also depends on level of technology, capital-labor ratio and so on, which differ greatly between industries, though not so much within an industry. The dummies control for sub-industry at the 4-digit NIC level (see Appendix Table B.1 for the list of industries).

Geographical dummies: Effects of regional differences in infrastructure, governance, and factor and product market conditions are captured here. Nine dummies are created corresponding to two northern, southern, western and eastern regions each, and one north-eastern region. Results are not substantially altered by controlling for individual states.

### **6.3.2 Limitations of NSS Data**

While the NSS database is thought to be the most reliable national level database for the informal sector, it also suffers from important limitations. Underestimation is possible, particularly for data on number of wage-workers as well as firm earnings. But there is no reason to believe that such errors will depend systematically on gender. Further, since this is an enterprise survey, only men and women taking part in informal activity are surveyed. Hence factors which lead to participation in such activity cannot be explored with this data. Finally, low sample size is a problem for fine-grained occupational divisions. The gender division of labor is found beyond the sub-industry level resulting in, for example, women undertaking lower value-added embroidery work as compared to men. This is hard to control for in national-level datasets.

## 6.4 Gender Disparities in the Informal Textile Industry

### 6.4.1 Descriptive Results

The NSS informal manufacturing survey collects information on size and gender composition of informal enterprises, the source of their inputs, destination of output, forms of subcontracting as well as assets, expenditures and revenues. Thus it is very useful for addressing the issue of gender disparities among self-employed workers in the informal sector. However, so far it has not been used for this purpose. The 2005-2006 NSS round estimates 2.5 million informal firms in the textile industry. It divides workers into three categories, working owners, unpaid family workers and hired workers. The first category needs elaboration. All owners are considered “working owners” because surveys find that proprietors of these micro enterprises perform duties of managers as well as workers. Since I am interested in disparities between self-employed workers, this is the category relevant to the analysis and I will focus on differences in Gross Value Added between firms run by men as opposed to women, instead of differences between wages paid to male and female hired workers.

Women constitute 50% of working owners, 72% of unpaid family workers and 15% of wage-workers. Women-owned firms are smaller in terms of assets owned and workers employed, and therefore earn less than male-owned firms. Mean monthly GVA and assets for female-owned firms are Rs. 951 ( $\sigma = 2953$ ) and Rs. 23,434 ( $\sigma = 135,353$ ) respectively while those for male-owned firms are Rs. 5278 ( $\sigma = 8176$ ) and Rs. 101,868 ( $\sigma = 278449$ ). The corresponding median values are Rs. 414 and Rs. 5800 for women and Rs. 2595 and Rs. 32,500 for men (see Appendix Table 6.2). All values are in nominal 2006 rupees. The low monthly values suggest that the median male firm operates at the subsistence level, while the median female firm appears to operate below subsistence. But as the large standard deviations and the distance between mean and median values indicate, distributions are significantly skewed to the right.

**Table 6.2.** Monthly GVA and Assets (2006 Rupees) for informal textile firms differentiated by gender of working owner

Value Added	Mean (SD)	Median	N
Male-owned firms	5278 (8176)	2595	3837
Female-owned firms	951 (2953)	414	3722
Assets	Mean (SD)	Median	N
Male-owned firms	101,868 (278499)	32,500	3861
Female-owned firms	23434 (135353)	5800	3796

Source: Author's calculations based on Government of India (2008b). Frequency weights have been applied.

The large gender difference in assets and monthly GVA is accounted for in part by firm size. As we see in Table 6.3 63.2% of women-owned firms consist of women working by themselves, with no paid or unpaid workers, while only 14.8% of male-owned firms are of this type. Conversely, while 61.7% of male owners employ at least one family worker, only 33.7% of women do so. Finally, 3% of women-owned firms employ paid and unpaid workers compared to 23.4% of male-owned firms. For those working owners who report having paid or unpaid workers, the NSS also collects data on the sex of the workers and their full-time or part-time status. Table 6.4 displays average number of workers in each of eight different categories across male and female-owned family and wage firms. Since most firms are very small in size, averages tend to be less than one in most cases. The difference between male and female-owned family firms is that full time male family workers are found in roughly one in three male-owned firms (mean = 0.37) but in only one in fourteen female-owned firms (mean = 0.07), i.e. as expected self-employed women tend to work with other women in the family. Coming to wage firms (columns 3 and 4), male-owned firms tend to work mostly with full time male wage workers while women-owned firms have on average one male and one female full-time hired worker and more part time workers compared to male-owned firms. The composition of the workforce is an important factor in determining the firm's performance since part of the gender gap could be explained by the fact that women tend to employ more part time workers and also



tend to work with other women who may be similarly constrained with care-work responsibilities. These differences will be taken into account by controlling for the number and type of worker in the regression analysis. Finally, it should be noted that, while it would be best to have data on hours worked by each type of worker, the NSS does not gather this information and instead only reports hours of operation at the firm-level.

**Table 6.3.** Employment Relations in informal textile firms differentiated by gender of working owner.

Characteristic	All firms	Male Owner	Female Owner
Single worker firms (%)	38.1	14.8	63.2
Family worker firms (%)	48.3	61.7	33.7
Wage worker firms (%)	13.6	23.4	2.99
N	7657	3861	3796

Source: Author's calculations based on Government of India (2008b). Frequency weights have been applied.

#### 6.4.2 Estimation Results

Table 6.5 shows the results of a semi-log OLS regression with  $\log(\text{monthly GVA})$  as the dependent variable. The key independent variables are sex and level of schooling of the working owner,  $\log(\text{assets})$ , hours of operation of the firm and number of various types of workers. The remaining control variables are dummies for firm location (urban or rural), sub-contracting relationship (yes or no), type of textile sub-industry and geographical location. Standard errors are clustered on the region in which the firm is located within a State. Only coefficients for the key variables are shown in Table 6.5. The complete results are provided in the Appendix.

Column 1 of Table 6.5 presents results for all informal textile firms, while Columns 2, 3 and 4 present results for single worker firms, firms with only family workers and firms with family as well as wage workers, respectively. Coefficient are reported along with standard errors (in parenthesis), and for dummy variables the third row

**Table 6.4.** Mean (SD) workers per firm

Type of Worker	Family Firms		Wage Firms	
	Male-owned	Female-owned	Male-owned	Female-owned
<b>Male</b>				
Full time, family	0.37 (0.72)	0.07 (0.30)	0.24 (0.58)	0.48 (0.73)
Part time, family	0.07 (0.30)	0.07 (0.27)	0.01 (0.15)	0.90 (0.29)
Full time, hired	-	-	2.76 (2.06)	1.01 (1.85)
Part time, hired	-	-	0.04 (0.27)	0.37 (1.65)
<b>Female</b>				
Full time, family	0.51 (0.65)	0.50 (0.64)	0.37 (0.75)	0.1 (0.32)
Part time, family	0.38 (0.59)	0.47 (0.66)	0.20 (0.48)	0.08 (0.34)
Full time, hired	-	-	0.34 (0.96)	0.99 (1.3)
Part time, hired	-	-	0.06 (0.42)	0.22 (0.77)
N	1465	1016	1731	228

*Source:* Author's calculations based on Government of India (2008b). Frequency weights have been applied.

gives the percentage by which GVA changes with change in the dummy.<sup>7</sup> When all informal firms are taken together, GVA for female-owned firms is 52.4% less than GVA for male-owned firms (Column 1). This effect is significant at the 1% level. This indicates that a large gender gap is left unexplained even after accounting for the principal determinants such as education, occupation, assets and firm size.

Disaggregating by type of firm, we see that women working by themselves earn 51.8% less than men working by themselves controlling for education, assets, hours worked, occupation and other factors mentioned above (Column 2). The size of the gender gap reduces somewhat for firms employing family workers (47.8%) but the most striking change is seen in the case of firms with wage-workers. In this case the coefficient on the female dummy is much smaller (-6.5%) and statistically insignificant. Women-owned firms which employ wage-workers do not suffer from a gender penalty as measured by GVA differences. What is different about firms employing wage-

<sup>7</sup>Coefficients on dummy variables in a semi-log model are interpreted as  $100 * (e^{(b - [0.5V(b)])} - 1)$  % change in the dependent variable with a change in the dummy variable (Garderen and Shah, 2002; Kennedy, 1981). A value of -0.74 thus corresponds to a 52.4% reduction. Coefficients on continuous variables are interpreted at  $100 * b$ .

workers? We saw earlier that women-owned family firms tend to work with unpaid women workers and women-owned wage firms have on average one female and one male hired worker. As would be expected on the basis of changing coefficients on the female dummy, we find for wage firms that the marginal contribution of male and female hired workers (0.23 versus 0.20) is not statistically distinguishable ( $p = 0.6$ ) while for family firms the marginal contribution of female family workers is less than that of male family workers ( $p < 0.01$ ). One hypothesis to explain these results is that unpaid female workers are less productive than their male counterparts because they undertake care-work as well as market work. The same is not the case for paid female workers who are as productive as their male counterparts resulting in a reduction of the gender gap for wage firms. In general we may say that while women working on their own or with (mostly female) family members engage in joint production of market as well as non-market goods and as a result suffer from lowered productivity as well as a devaluation of their time. Men do not suffer from this problem. And neither do women wage-workers, possibly because their time is also not fragmented by care responsibilities.<sup>8</sup>

The other significant effects in the regression are along expected lines. We see a significant positive effect on GVA of the owner having passed high school and of number of hours the firm operates. The coefficient on  $\log(\text{assets})$ , which gives us the asset elasticity of GVA, shows that a 1% increase in assets results in a 0.16% increase in GVA.

A caveat must be mentioned here. An important source of gender difference which I am unable to include in the analysis due to lack of data is variation in

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<sup>8</sup>It should be noted that the coefficients on the worker variables measure the marginal contribution across firm size and thus will average out differences between smaller firms where an additional worker may represent a doubling of GVA and large firms where an additional worker may make a smaller contribution. This, however, should not obscure the differences in contribution of male and female workers.

**Table 6.5.** OLS regression for log(GVA)

Model	All Firms	Single Worker	Family Firms	Wage Firms
<b>Sex and education of owner</b>				
Female	-0.740*** (0.081)	-0.727*** (0.088)	-0.645*** (0.108)	-0.055 (0.154)
Female (%)	-52.4	-51.8	-47.8	-6.5
High School	0.266*** (0.066)	0.262** (0.120)	0.133 (0.139)	0.205* (0.104)
High School (%)	30.2	29.0	13.1	22.1
<b>Hours and Assets</b>				
Hours Operational	0.135*** (0.014)	0.154*** (0.019)	0.128*** (0.019)	0.044*** (0.013)
Log(Assets)	0.167*** (0.033)	0.116*** (0.019)	0.179*** (0.043)	0.170*** (0.036)
<b>Number of Male Workers</b>				
Full time family	0.265*** (0.043)	-	0.243*** (0.029)	0.094** (0.043)
Full time hired	0.307*** (0.025)	-	-	0.229** (0.025)
<b>Number of Female Workers</b>				
Full time Family	0.207*** (0.035)	-	0.097** (0.046)	0.127* (0.069)
Full time hired	0.372*** (0.048)	-	-	0.205*** (0.051)
Sample	7367	3055	2384	1928
Population	2398522	894164	1164955	339403
F stat	889.38	509.04	301.60	1330.16
R <sup>2</sup>	0.76	0.60	0.65	0.67

*Note:* Unit-level data for informal textile firms from Government of India (2008b).

Frequency weights have been applied. Dependent variable is obtained by log transforming monthly Gross Value Added data. Coefficients on dummy variables are to be interpreted as  $100 * (e^{(b - [0.5V(b)])} - 1)$  % change in GVA with a change in the dummy variable. Coefficients on continuous variables are interpreted at  $100 * b$ . Controls not shown (see appendix) are level of education of working owner below high school, whether firm is rural or urban, whether it undertook work on contract, dummies for textile sub-industry and region of India. Standard errors are clustered on the region in which the firm is located within a State and are reported in brackets. Statistical significance: \* = 10% \*\* = 5% \*\*\* = 1%

skill level as opposed to formal schooling. Official surveys are poor in estimating skills in the informal sector since these often bear little relation to formal education. The NSS Employment-Unemployment Survey from 2004-2005 (one year prior to the manufacturing survey) does contain some information that can be used to form a general impression of differences in skills across sex. All respondents were asked about the type and extent of technical and vocational training they had obtained. The overwhelming majority of men as well as women reported no technical training (i.e. no training received in a formal technical program or institute). The question on vocational training also elicited a negative response from majority of the respondents, though interestingly more men (74%) fall in the “no vocational training” category as compared to women (57.5%). This is an unexpected finding and one that seems to go against the prevalent view that women have less access to skill acquisition as compared to men. As far this data goes it seems that women are not systematically less skilled at their work as compared to men, but it still leaves us none the wiser about the majority of respondents who deny receiving any type of formal or non-formal training. The negative responses hide whatever mechanisms of learning and training exist and therefore also hide any gender disparities in them. Thus it is quite possible that women are at a disadvantage in receiving on-the-job training or in taking part in informal apprenticeships.

#### **6.4.3 Gender Differentiated Effects of Sub-Contracting**

I conclude analysis of NSS data by offering some evidence that sub-contracting negatively affects piece-rate women workers more than men. A priori the impact of sub-contracting on firm GVA could be positive if regular contracts smooth demand and supply variations and shield small units from fluctuations in prices of inputs and outputs in the open market. On the other hand, the impact can be negative if it prevents the unit from realizing a higher price for its product in the market or

reduces firm earnings by giving a share of output to intermediaries. In particular for home-based women, sub-contracting and presence of middlemen or intermediaries in the value chain could reduce access to information on prices, piece-wages, identity of employer as well as other employment opportunities, and also reduce bargaining power in market transactions.

The NSS collects data on sources of input, destination of output and sub-contracting. Table 6.6 shows that women are twice as likely to rely on middlemen for inputs and 1.6 times more likely to sell their products via middlemen. Further 66.4% of the women-owned textile enterprises are engaged in a sub-contracting relationship with a master-unit, as opposed to 55.6% of male-owned firms. Of those undertaking work on a sub-contract basis, women are more likely to depend exclusively on contract work compared to men (89.2% versus 94.5%) and are more likely to rely on the master-unit for access to equipment and raw materials as compared to their male counterparts (see Table 6.6).

**Table 6.6.** Sub-contracting characteristics of informal textile firms differentiated by gender of working owner.

Characteristic	All firms	Male Owner	Female Owner
Share firms buying from middleman (%)	25.6	17.5	34.3
Share firms selling to middleman (%)	41.5	31.7	52.0
Share of firms on sub-contract (%)	60.8	55.6	66.4
<i>For firms on sub-contract</i>			
Share Purely on Contract (%)	92.0	89.2	94.5
Share Getting Equipment (%)	13.2	8.4	17.7
Share Getting Materials (%)	88.3	85.6	90.8
N	7657	3861	3796

Source: Author's calculations based on Government of India (2008b). Frequency weights have been applied.

If women-owned firms differ systemically from male-owned firms in these respects, we may ask if these differences result in lower GVA for women-owned firms. To test if the impact of undertaking work exclusively or predominantly on sub-contract as

opposed to selling directly to consumers or other firms is felt differently by women, we can stratify the baseline model for all informal textile firms by gender of working owner and include an additional dummy variable that captures whether the informal firm depends largely on sub-contracting or has its own market. This reveals that for women, GVA for firms undertaking work mainly on a sub-contract basis is 43.5% less than GVA for firms selling directly to consumers. For men, the effect is much smaller (-11.2%) and not statistically significant. Thus it appears that sub-contracting, as opposed to selling in the market, adversely affects earnings of women but not of men.

## 6.5 Conclusion

Women in the informal economy and home-based workers in particular, constitute a large but invisible section of the working class in developing countries. The last two decades have seen a rise in much needed academic and policy work as well as organizing activity that aims to improve the conditions of work for women in the informal economy by increasing their visibility and by constructing institutions that aid access to credit and product markets. Despite important success by SEWA, HomeNet, WIEGO and other groups as reflected for example in the adoption of the Convention on Homeworkers by the ILO, much remains to be done. As far as academic scholarship is concerned, national-level datasets are under-explored with respect to gender disparities among self-employed and other informal sector workers. The NSS can provide information not only on the earnings gap, but also on other disadvantages that women face as self-employed and home-based workers. This study presents estimates of the gender earnings gap in the informal textile industry in India and also uses NSS data to show how women-owned firms differ from male-owned firms in terms of size, asset ownership, worker composition and sub-contracting arrangements.

Even though various forms of self-employment and piece-rate work are the dominant form of employment in developing countries, few studies have attempted to

measure gender earnings disparities in this sector. We saw that NSS data on Gross Value Added (GVA) by informal firms can be used as a measure of how successful women are in comparison to men, in the informal economy. Monthly GVA reported by women-headed firms was found to be 52% less than GVA for male-headed firms, controlling for education, assets, number of full-time and part-time, paid and unpaid, male and female workers, hours of operation and other relevant variables. The size of the gender penalty is comparable to the few other estimates available on self-employed workers which are reported by Sethuraman (1998).

As we saw in Chapter Five, primary time-use and interview data from home-based women workers in Banaras point to the role played by care-work responsibilities and the resulting devaluation of women's work as "spare-time activity" in causing gender disparities in earnings of self-employed workers. Since spare time has no opportunity cost, extremely low hourly earnings, amounting at times to not much more than "spare change" are found for women in the informal sector. The hypothesis that emerges from the Banaras fieldwork was tested by measuring the extent of the gender gap for informal firms hiring wage-workers. The rationale was that hired workers would be less likely to be bound by the same responsibilities for care-work, nor would their work be seen as spare-time activity. Hence women-headed firms able to make use of hired labor would be expected to suffer from a smaller gender penalty. We see that the residual gap after controlling for occupation, education and other relevant variables almost completely disappears in case of wage firms.

Lastly, the foregoing analysis also allows some conclusions on the way sub-contracting or putting-out arrangements differentially affect men versus women. The results show that women are more likely to undertake work on contract. Among sub-contracted firms, women-owned firms are more likely to rely exclusively on contractors, as opposed to having their own market. Stratifying the base regression by sex of the work-



ing owner also shows that women-owned firms pay a penalty for sub-contracting, in terms of lower monthly GVA, that male-owned firms do not pay.

The results presented here can form the basis for a more long-term study, based on successive NSS rounds. Further empirical work will be required to test what proportion of the gender penalty is explained by differences in patterns of time-use. For this purpose more detailed primary time-use surveys as well as the latest Indian Time Use Survey will be needed. Through a combination of empirical and policy-oriented academic work as well as organizing of home-based workers present conditions, that result in large gender disparities and low earnings for women in the informal economy, can be altered.

## CHAPTER 7

### CONCLUSION

The vast majority of the Indian work-force is “uneducated” from a conventional point of view. Even when they have received some schooling, formal education rarely prepares individuals for employment. Rather, various forms of apprenticeships and on-the-job training are the dominant modes of knowledge acquisition. Working and training are often contemporaneous. The institutions that enable creation and transfer of knowledge in the informal economy are poorly understood because informal knowledge itself has been an understudied subject. Recently, the rise of the so-called “Knowledge Society” with a concomitant interest in traditional and indigenous knowledge has brought some visibility to the informal knowledge possessed by peasants, artisans, and other workers in the informal economy. The present study extends this strand of research along three dimensions. First and foremost, *work* is introduced into the study of knowledge. Thus lokavidya is studied in the context of the production relations that create and sustain it. As shown in Chapter Two, the importance of “working knowledge” or knowledge gained in the process of applying it, is being recognized in a variety of disciplines. The informal economies of developing countries offer an excellent opportunity to understand working knowledge better and it is hoped that the present study will inspire many more. Second, the family mode of production and apprenticeships are foregrounded as important institutions that achieve inter-generational transfer of knowledge at a low cost. Third, through a case-study of the adoption of powerlooms in the Banaras weaving industry, the impact of

technical change on informal knowledge and attempts to create intellectual property rights in informal knowledge are studied.

The second issue explored in the preceding pages is gender disparities in the informal economy. Although this subject has received more attention than informal knowledge, as I argued in Chapter Six measurements of the gender earnings gap in the informal economy are rare in the literature. The extensive academic and policy work on home-based and self-employed women workers illuminates the ways in which gender discrimination can operate in the informal economy. In the present study, for the first time National Sample Survey data are used to measure the gender gap and to test the hypothesis that women working on their own or with family workers are prone to a greater gender penalty than self-employed women who can hire wage-workers. This hypothesis emerges from the literature on home-based work as well as from the results of the time-use survey and interviews conducted among women embroidery workers in Banaras which show that hourly earnings for women can be very low and still be justifiable as exceeding the perceived opportunity cost of their time.

To return to the knowledge question, *lokavidya* is not only of academic interest. The turbulence in the world of knowledge affords an opportunity to construct a new politics of *lokavidya* and I see this work as part of the preparation for such a politics. The vast majority of the world's citizens have been told that they need to be educated in order to participate fully in society and to become leaders. To remove this stigma of ignorance it is not enough to talk about the value of preserving traditional knowledge. To "preserve" this knowledge often means to put it in the service of the global market. Indeed, the idea that society is knowledge-abundant rather than knowledge-scarce will come as no surprise to the global capitalist class who has effectively used the new technologies of information and communication to exploit dispersed *lokavidya*-based labor all over the world. As we saw in Chapter Three, the widely prevalent subcontracting or putting-out relationships connect artisans to capital, allowing *lokavidya*

holders to earn a living based on their knowledge while the knowledge rents themselves accrue to the capitalist and/or the consumer. My dual focus on knowledge and class is meant to guard against a simple valorization of this knowledge by bringing to light how labor-based knowledge is exploited and how institutions that support and sustain lokavidya not only support artisanal livelihoods but also support the extraction of value from artisanal labor.

An important difference between the lokvidya perspective and the traditional/indigenous knowledge perspective is that the former sees knowledge with the people as a source of their strength and as a dynamic entity that fulfills needs, while the latter sees the same knowledge as being in need of systematization and authentication. Once “proper” and authentic traditional practices are identified they can be valorized and preserved. The lokavidya standpoint is against the preservation or saving of TK/IK. This contrast was explored in Chapter Four using the example of the Geographical Indication awarded in the name of the Banarasi Sari. Such an approach may “save” the Banarasi Sari by ensuring secure livelihoods for a small number of authentic artisans. But it cannot build a politics that can benefit the majority of artisans and neither is that its aim. Taking the Banarasi Sari industry as an example for many such clusters throughout India, it appears that attempts to link artisans to the global market via brand-building and other similar initiatives do not have the capacity to fundamentally change their lives. As we have seen in the foregoing pages, artisans are enterprising, forward-looking and conscious of their capacity to change with the times. But they are caught in exploitative relations and they are shut out of the most important market, the local mass-market. Producer cooperatives which were meant to address these concerns, at least in Banaras have been completely compromised. Only a distinct, new political organization that has a mass-base among the weavers can change the situation in Banaras. But many obstacles stand in the way of building

such an organization, not the least being fine gradations of rank and status among the weavers themselves.

A mass political movement aside, what prescriptions does the present work offer for policy with regard to Banaras? Certainly a basic wish-list would include adequate supply of crucial infrastructure such as electricity, scrapping of the dysfunctional cooperative system and building alternative ways to channel credit to the weavers, a competing channel for communicating market trends that can break the monopoly of the merchants and masters over this knowledge and cracking down on fabric from outside Banaras purporting to be Banarasi. But going beyond this, the study also presents a case for rethinking the implementation of Child Labor Laws such that they realize the intended effect of stopping bonded labor and abusive practices without also undermining apprenticeship methods. Practical solutions are possible but they require an approach that considers *lokavidya* more than just a stop-gap entity to be used until it is rendered obsolete by modern knowledge.

Banaras also presents an interesting case-study in the matter of competition between hand and powerlooms. This is of course an old theme in textile labor history and appears prominently in the writings of E.P. Thompson and other English labor historians. Then as now, the transition is complex and there are no easy answers. Elsewhere in India, there have been experiments in making the local market available to handloom weavers and it is possible that if the Banaras handloom is not only to survive but also thrive, it will need to look not at the high-end export market but in the opposite direction, at the low and middle end local markets. As we saw in Chapter Four, various forms of reservations and subsidies for the handloom industry have been a fixture of State policy since Independence. However, the unintended beneficiary has been the decentralized powerloom sector. Under the present State co-operative system, compromised as it is to a large extent, the mass of handloom weavers will not benefit from further reservations or subsidies. But, as we saw, weavers themselves

do not see the handloom as something holy that has to be preserved at all costs. If new representative bodies are built even modernization to powerlooms could be undertaken in an equitable fashion by making credit available to handloom weavers.

Thus far I have avoided contending with one major charge against lokavidya, or what conversely speaking is usually put forth as a major advantage of formal knowledge. A powerful argument in favor of the professionalization of knowledge management or production and the creation of a special class of managers and researchers is the resulting increase in labor productivity (of both manual and mental labor). Frederick Taylor's preoccupation with increasing the productivity of blue-collar workers and the pervasive cultural preoccupation with ever-increased pace of innovation and discovery are conceptually related. Hence the perennial questions: does not the artisanal mode of production lose on efficiency grounds, do we not see artisanal production surviving only because it can compete on the basis of intensified self-exploitation or can operate in niche markets? From the standpoint adopted in this work we see that increased productivity comes at a cost. Ordinary people are expected to cede ever greater areas of mental life in return for increasing material standards of living. We trade control for comfort and in the process we lose meaning of work. As Marglin (1990) observes, the consequences of workers conceding the inferiority of their knowledge before the knowledge of the managers are many-fold. For example, unions (or what is left of them) do not consider the shaping of the nature of technical change their business. So we may counter the questions posed in the previous paragraph with questions of our own: is it not the case that vast increases in productivity today go hand-in-hand with unprecedented inequality, not just material inequality, but a greater divide between conception and execution? Can we not imagine a work and knowledge regime with puts equality, meaning and fulfillment before productivity? Does not the privileging of productivity over equality also result in the

adoption of Taylorist production techniques (under the name of Stakhanovism) in a state that purports, with justification, to be a “workers’ state?”

Resistance to taking control over knowledge away does not start with the protests against Taylorization. It is to be seen in the countless “struggles against the machine” which dot the history of the modern working class. But as capital wins the fight for control over the labor process, technical change, which was a battlefield in the 19th century, gradually ceases to be so. Instead it is increasingly viewed as being class and gender neutral (Carchedi, 1983). The class and gender-biased effects of technical change are explained away as “inevitable” consequences of the forward march of history. To question this process is to be a primitivist or a poverty-monger. Contrary to this perspective, the lokavidya standpoint imagines a different relationship between knowledge and the working class. It recognizes that Science and the application of Science under the guidance of the capitalist class are not two different things but two faces of the same coin. It sees what is often interpreted as misguided craft pride or reactionary politics of the artisan classes as an element of progressive social change. It asserts that if the working class regains its confidence in its knowledge, sees itself not merely as a laboring class, then it can regain the confidence to stake a claim for the reorganization of society. In a country like India, where the vast majority of the working class has not a university education but lokavidya, the challenge becomes staking such a claim for lokavidya.

**APPENDIX A**  
**SURVEYS QUESTIONNAIRES**



## Survey Questionnaire: Own Work Weaver

Title: Production Relations & People's Knowledge in Varanasi's Informal Economy  
 Investigator: Amit Basole, Dept. of Economics, University of Massachusetts, Amherst, MA, 01002.  
 Tel: 91-9559374152, Email: abasole@gmail.com

Date of Survey: \_\_\_\_\_  
 Location (mohalla, city): \_\_\_\_\_

### GENERAL INFORMATION

1. Numerical ID: \_\_\_\_\_
2. Age: \_\_\_\_\_
3. Religion and Caste: \_\_\_\_\_
4. Monthly Family Income: \_\_\_\_\_
5. No. of family members: \_\_\_\_\_
6. Sources of income other than weaving: \_\_\_\_\_
7. Years of experience in weaving: \_\_\_\_\_
8.
  - a. When did you start learning: \_\_\_\_\_
  - b. How long did it take to become adept at the work? \_\_\_\_\_
9. Formal education in school/college/madarsa (Islamic school): \_\_\_\_\_
10. Is weaving your family's traditional occupation (traditional = three generations or more)  
☐ Yes      ☐ No
11. What type of weaving do you do? (tick all applicable categories):  
☐ Handloom (indicate type: \_\_\_\_\_)  
☐ Powerloom (indicate type: \_\_\_\_\_)
12. Can you/your firm afford a generator?    ☐ Yes      ☐ No
13. Do you own your own loom(s)?  
☐ Yes      ☐ No
14. Do you/your employer undertake:    ☐ Job-work      ☐ Own work      ☐ Both  
 If job-work, since when?

15.

If loom-owner		If loomless weaver	
How many looms does the family own?		Did you own loom(s) in the past?	
How many looms do you operate?		How many?	
How many artisans do you employ?		How many looms does employer have?	
How many family members help in the work?		How much do you earn per day?	

16. For powerloom weavers:

a. When did you start working on the powerloom?

b. Did you work on a handloom in the past?

c. Do you attempt to create a "handloom look?" ☐ Yes ☐ No

17. For handloom weavers: Do you think you have been hurt by competition from powerlooms?

☐ Yes ☐ No

18. a. Current product(s): \_\_\_\_\_

b. Have you started making new products in the past 5 years? ☐ Yes ☐ No

19. Type of yarn

☐ Silk ☐ Cotton ☐ Synthetic ☐ Blend

20. Design:

a. Type of design you are currently weaving: \_\_\_\_\_

b. How long what you been weaving this design? \_\_\_\_\_

c. Who gets design made? ☐ You ☐ Gadiddar/Girhasta ☐ Otherd. If Gaddidar/Girhasta, in what form do you receive it? ☐ Design-graph ☐ Boarde. Are your designs developed on a computer? ☐ Yes ☐ No ☐ Don't Know

23. Do you think you get a return for both your skill and your labor?

☐ Yes ☐ No

24. Is the firm registered with any government agency or co-op society?

☐ Yes ☐ No

If yes what is its name? \_\_\_\_\_

25. Who does preparatory yarn work:

☐ Family members ☐ Get it done outside

If outside, how much do you pay per kg: \_\_\_\_\_

26. If employing outside workers: How long have your workers worked in your firm?

27. Do you think the price you get is fair?

☐ Yes ☐ No

If no, what are some reasons for this?

- ☐ Competition among vendors  
☐ Lack of organization among producers  
☐ Lack of access to market  
☐ Low demand for product  
☐ Other: \_\_\_\_\_

28. What would help you to get a fair price?  
 \_\_\_\_\_

29. Are you behind on your electricity payments? ☐ Yes ☐ No

30. Which of the following problems do you face (tick the relevant ones)?

- ☐ Delayed payments  
☐ Have to make several trips to merchant for complete payment  
☐ Have to pay agents to cash post-dated checks (indicate % commission: \_\_\_\_\_)  
☐ Arbitrary rejection of goods  
☐ Reductions in sale price for alleged mistakes in production  
☐ Inability to meet delivery schedules  
☐ Have to deal through middlemen  
☐ No long-term or regular contracts available  
☐ Other (please specify): \_\_\_\_\_

31.

For one example product, please indicate

Price you sell for: \_\_\_\_\_

Value of materials and/or components used: \_\_\_\_\_

Labor costs: \_\_\_\_\_

Retail price for consumer (ask for estimate): \_\_\_\_\_

32. Do you give work outside (to other weavers) as needed? ☐ Yes ☐ No

33. To whom do you sell your product(s) (mention percentage of sales if known)

- ☐ To Gaddidar (Hindu merchant)  
☐ To Girhastha (Muslim merchant)  
☐ To an agent (arhatiya)  
☐ To the consumer (via Government outlet etc)  
☐ Other: \_\_\_\_\_

34. At what terms do you sell your product(s) (tick all applicable categories)?

- ☐ Advance payment ☐ Cash on delivery ☐ Check on delivery  
☐ On credit (\_\_\_\_\_ months)

35. What is the source of your inputs (e.g. yarn, design, sari etc)?

- ☐ Gaddidar/Girhastha (Merchant)

☐ Raw material supplier

☐ Other: \_\_\_\_\_

33. At what terms do you buy your inputs?

☐ Advance payment

☐ Cash on delivery

☐ Credit (indicate months)

☐ Other

34. Do you set your own schedule or work on a fixed work-schedule?

35. Length of the working day: \_\_\_\_\_

36. Sources of loan (if needed)

☐ Family

☐ Money-lender

☐ Gaddidar

☐ Bank

37. Any other comments?

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## Survey Questionnaire: Job Work Weaver

Title: Production Relations & People's Knowledge in Varanasi's Informal Economy  
 Investigator: Amit Basole, Dept. of Economics, University of Massachusetts, Amherst, MA, 01002.  
 Tel: 91-9559374152, Email: abasole@gmail.com

Date of Survey: \_\_\_\_\_  
 Location (mohalla, city): \_\_\_\_\_

### GENERAL INFORMATION

1. Numerical ID: \_\_\_\_\_
2. Age: \_\_\_\_\_
3. Religion and Caste: \_\_\_\_\_
4. Monthly Family Income: \_\_\_\_\_
5. No. of family members: \_\_\_\_\_
6. Sources of income other than weaving: \_\_\_\_\_
7. Years of experience in weaving: \_\_\_\_\_
8. Informal training
  - a. When did you start learning: \_\_\_\_\_
  - b. How long did it take to become adept at the work? \_\_\_\_\_
9. Formal education in school/college/madarsa (Islamic school): \_\_\_\_\_
10. Is weaving your family's traditional occupation (traditional = three generations or more)  
☐ Yes      ☐ No
11. What type of weaving do you do? (tick all applicable categories):  
☐ Handloom (indicate type: \_\_\_\_\_)  
☐ Powerloom (indicate type: \_\_\_\_\_)
12. Can you/your firm afford a generator?    ☐ Yes      ☐ No
13. Do you own your own loom(s)?  
☐ Yes      ☐ No
14. Do you/your employer undertake:    ☐ Job-work      ☐ Own work      ☐ Both  
 If job-work, since when?

15.

If loom-owner		If loomless weaver	
How many looms does the family own?		Did you own loom(s) in the past?	
How many looms do you operate?		How many?	
How many artisans do you employ?		How many looms does employer have?	
How many family members help in the work?		How much do you earn per day?	

16. For powerloom weavers:

a. When did you start working on the powerloom?

b. Did you work on a handloom in the past?

c. Do you attempt to create a "handloom look?" ☐ Yes ☐ No

17. For handloom weavers: Do you think you have been hurt by competition from powerlooms?

☐ Yes ☐ No

18. a. Current product(s): \_\_\_\_\_

b. Have you started making new products in the past 5 years? ☐ Yes ☐ No

19. Type of yarn

☐ Silk ☐ Cotton ☐ Synthetic ☐ Blend (warp silk, weft synthetic)

20. Design:

a. Type of design you are currently weaving: \_\_\_\_\_

b. How long what you been weaving this design? \_\_\_\_\_

c. Who gets design made? ☐ You ☐ Gadiddar/Girhasta ☐ Otherd. If Gaddidar/Girhasta, in what form do you receive it? ☐ Design-graph ☐ Boarde. Are your designs developed on a computer? ☐ Yes ☐ No ☐ Don't Know

21. Do you think you get a return for both your skill and your labor?

☐ Yes ☐ No

22. Is the firm registered with any government agency or co-op society?

☐ Yes ☐ No

If yes what is its name? \_\_\_\_\_

23. Who does preparatory yarn work:

☐ Family members ☐ Get it done outside

If outside, how much do you pay per kg: \_\_\_\_\_

24. If employing outside workers: How long have your workers worked in your firm?

25. Do you think the piece-rate you get is fair?

☐ Yes ☐ No

If no, what are some reasons for this?

☐ Competition among vendors

- ☐ Lack of organization among producers  
☐ Lack of access to market  
☐ Low demand for product  
☐ Other: \_\_\_\_\_

26. What would help you to get a fair price? \_\_\_\_\_

27. Are you behind on your electricity payments? ☐ Yes ☐ No

28. Which of the following problems do you face (tick the relevant ones)?

- ☐ Delayed payments  
☐ Have to make several trips to merchant for complete payment  
☐ Have to pay agents to cash post-dated checks (indicate % commission: \_\_\_\_\_)  
☐ Arbitrary rejection of goods  
☐ Reductions in sale price for alleged mistakes in production  
☐ Inability to meet delivery schedules  
☐ Have to deal through middlemen  
☐ No long-term or regular contracts available  
☐ Other (please specify): \_\_\_\_\_

29.

Type of product	Time taken to produce one unit	Piece rate

30.

- a. Do you work for: ☐ Girhastha (Muslim merchant or master-weaver) ☐ Gaddidar (Hindu merchant)  
 b. How many weavers does this merchant put-out work to?  
 c. How long have you worked with the current merchant?

31. How are you paid?

- ☐ Cash on delivery ☐ Check on delivery ☐ In cash installments  
☐ Other

32. Do you set your own schedule or work on a fixed work-schedule?

33. Length of the working day: \_\_\_\_\_

34. Sources of loan (if needed)

- ☐ Family ☐ Money-lender ☐ Gaddidar ☐ Bank

35. Any other comments?

\_\_\_\_\_

## Survey Questionnaire: Loomless Weaver

Title: Production Relations & People's Knowledge in Varanasi's Informal Economy  
 Investigator: Amit Basole, Dept. of Economics, University of Massachusetts, Amherst, MA, 01002.  
 Tel: 91-9559374152, Email: abasole@gmail.com

Date of Survey: \_\_\_\_\_  
 Location (mohalla, city): \_\_\_\_\_

### GENERAL INFORMATION

1. Numerical ID: \_\_\_\_\_
2. Age: \_\_\_\_\_
3. Religion and Caste: \_\_\_\_\_
4. Monthly Family Income: \_\_\_\_\_
5. No. of family members: \_\_\_\_\_
6. Sources of income other than weaving: \_\_\_\_\_
7. Years of experience in weaving: \_\_\_\_\_
8. Informal training
  - a. When did you start learning: \_\_\_\_\_
  - b. How long did it take to become adept at the work? \_\_\_\_\_
9. Formal education in school/college/madarsa (Islamic school): \_\_\_\_\_
10. Is weaving your family's traditional occupation (traditional = three generations or more)  
☐ Yes      ☐ No
11. What type of weaving do you do? (tick all applicable categories):  
☐ Handloom (indicate type: \_\_\_\_\_)  
☐ Powerloom (indicate type: \_\_\_\_\_)
12. Can you/your firm afford a generator?    ☐ Yes      ☐ No
13. Do you own your own loom(s)?  
☐ Yes      ☐ No
14. Do you/your employer undertake:    ☐ Job-work      ☐ Own work      ☐ Both  
 If job-work, since when?



15.

If loom-owner		If loomless weaver	
How many looms does the family own?		Did you own loom(s) in the past?	
How many looms do you operate?		How many?	
How many artisans do you employ?		How many looms does employer have?	
How many family members help in the work?		How much do you earn per day?	

16. For powerloom weavers:

a. When did you start working on the powerloom?

b. Did you work on a handloom in the past?

c. Do you attempt to create a "handloom look?" ☐ Yes ☐ No

17. For handloom weavers: Do you think you have been hurt by competition from powerlooms?

☐ Yes ☐ No

18. a. Current product(s): \_\_\_\_\_

b. Have you started making new products in the past 5 years? ☐ Yes ☐ No

19. Type of yarn

☐ Silk ☐ Cotton ☐ Synthetic ☐ Blend (warp silk, weft synthetic)

20. Design:

a. Type of design you are currently weaving: \_\_\_\_\_

b. How long what you been weaving this design? \_\_\_\_\_

23. Do you think you get a return for both your skill and your labor?

☐ Yes ☐ No

24. Do you think the piece-rate you get is fair?

☐ Yes ☐ No

If no, what are some reasons for this?

☐ Competition among workers☐ Lack of organization among producers☐ Lack of access to market☐ Low demand for product☐ Other: \_\_\_\_\_

25. What would help you to get a fair price?

\_\_\_\_\_

26. Are you behind on your electricity payments? ☐ Yes ☐ No

27. Which of the following problems do you face (tick the relevant ones)?

- ☐ Delayed payments  
☐ Payment made in several installments  
☐ Reductions in sale price for alleged mistakes in production  
☐ Inability to meet delivery schedules  
☐ No long-term or regular contracts available  
☐ Other (please specify): \_\_\_\_\_

28. How long have you worked in this firm: \_\_\_\_\_

29. Do you set your own schedule or work on a fixed work-schedule?

30.

Type of product	Time taken to produce one unit	Piece rate

31. Length of the working day: \_\_\_\_\_

32. Are artisans supervised directly on the shop-floor? ☐ Yes ☐ No

33. Are there production target for each day? ☐ Yes ☐ No

☐ Check if rewards or punishments are associated with targets

34. Are there penalties for breakages, spoilages, lateness etc? ☐ Yes ☐ No

If yes, what are the types of penalties? \_\_\_\_\_

35. Does the firm offer

- ☐ Holiday bonuses  
☐ Personal consumption loans (for weddings, healthcare etc)  
☐ Free lunch/dinner  
☐ Sleeping premises

36. How are you paid?

☐ Other

37. Are you paid: ☐ Cash on delivery ☐ Check on delivery ☐ In cash installments

☐ Weekly in cash ☐ Monthly in cash ☐ Other

38. Any other comments?

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**APPENDIX B**  
**REGRESSION TABLES**

**Table B.1.** Descriptive statistics for regression variables. N = 7657.

Variable	Mean	Std Dev
Log(GVA)	7.04	1.46
<i>Owner Characteristics</i>		
Sex	.48	.50
Primary School	.41	.49
Middle School	.21	.41
High School	.10	.30
<i>Firm Characteristics</i>		
Hours of operation	6.82	2.67
Log(assets)	9.48	2.06
Urban	.31	.46
Contract	.61	.49
Owner part-time	.20	.40
<i>Number of workers</i>		
Female family full-time	.29	.57
Female family part-time	.22	.50
Female hired full-time	.05	.40
Female hired part-time	.01	.18
Male family full-time	.16	.51
Male family part-time	.04	.21
Male hired full-time	.35	1.17
Male hired part-time	.01	.22
<i>List of Industry Dummies</i>		
Powerloom spinning and weaving	.20	.40
Finishing (excl. handlooms)	.02	.14
Handloom spinning and weaving	.18	.38
Handloom finishing	.01	.11
Other textiles (bed-covers, cushion covers)	.04	.19
Machine-made carpets and rugs	.05	.22
Cordage, rope, twine and netting	.08	.27
Hand Embroidery	.30	.46
Carpets and rugs by hand	.04	.19
Other textiles not elsewhere classified	.06	.24
Knitted and crocheted fabrics	.007	.086
<i>Region Dummies</i>		
South1	.13	.34
South2	.10	.30
North1	.24	.42
North2	.08	.28
West1	.06	.25
West2	.04	.20
East1	.04	.19
East2	.23	.42
Northeast	.06	.23

Source: Author's calculations based on Government of India (2008b). Frequency weights have been applied.

**Table B.2.** Estimation results : All Firms

Variable	Coefficient	(Std. Err.)
female	-0.740**	(0.081)
primary school	0.197*	(0.079)
middle school	0.306**	(0.069)
high school	0.266**	(0.066)
urban_dummy	0.032	(0.056)
contract_dummy	-0.109†	(0.055)
hours_operation	0.135**	(0.014)
log(assets)	0.167**	(0.033)
parttime_dummy	-0.295**	(0.089)
female_family_fulltime	0.207**	(0.035)
female_family_parttime	0.058	(0.039)
female_hired_fulltime	0.372**	(0.048)
female_hired_parttime	0.269**	(0.068)
male_family_fulltime	0.265**	(0.043)
male_family_parttime	0.279	(0.204)
male_hired_fulltime	0.307**	(0.025)
male_hired_parttime	0.231**	(0.035)
textile_industry_dummy1	-0.152	(0.205)
textile_industry_dummy2	-0.221	(0.215)
textile_industry_dummy3	-0.433*	(0.192)
textile_industry_dummy4	-0.265	(0.213)
textile_industry_dummy6	0.222	(0.195)
textile_industry_dummy7	-0.231	(0.205)
textile_industry_dummy8	-0.151	(0.199)
textile_industry_dummy9	-0.488	(0.322)
textile_industry_dummy10	0.075	(0.243)
textile_industry_dummy11	-0.382	(0.323)
south1	-0.133	(0.170)
south2	-0.167	(0.120)
east1	0.044	(0.174)
east2	-0.086	(0.118)
west1	-0.083	(0.126)
west2	-0.096	(0.108)
north2	0.071	(0.167)
northeast	0.611**	(0.159)
Intercept	4.782**	(0.396)
<hr/>		
N	2398522	
Sample	7367	
R <sup>2</sup>	0.766	
F <sub>(35,75)</sub>	889.38	

**Table B.3.** Estimation results : Only working owner

Variable	Coefficient	(Std. Err.)
female	-0.727**	(0.088)
primary school	0.244	(0.174)
middle school	0.236*	(0.100)
high school	0.262*	(0.120)
urban_dummy	0.052	(0.076)
contract_dummy	-0.119	(0.072)
hours_operation	0.154**	(0.019)
log(assets)	0.116**	(0.019)
parttime_dummy	-0.238*	(0.102)
textile_industry_dummy1	-0.328	(0.204)
textile_industry_dummy2	-0.616*	(0.240)
textile_industry_dummy3	-0.628**	(0.150)
textile_industry_dummy4	-0.742**	(0.246)
textile_industry_dummy6	-0.003	(0.146)
textile_industry_dummy7	-0.495**	(0.160)
textile_industry_dummy8	-0.504**	(0.120)
textile_industry_dummy9	-0.335	(0.220)
textile_industry_dummy10	-0.247	(0.177)
textile_industry_dummy11	-0.771**	(0.262)
south1	-0.425*	(0.170)
south2	-0.072	(0.131)
east1	-0.241	(0.254)
east2	-0.002	(0.091)
west1	0.073	(0.104)
west2	-0.234	(0.142)
north2	0.192	(0.208)
northeast	0.711**	(0.164)
Intercept	5.216**	(0.242)
N	894164	
Sample	3055	
R <sup>2</sup>	0.602	
F <sub>(27,71)</sub>	509.043	

**Table B.4.** Estimation results : Firms with only family workers

Variable	Coefficient	(Std. Err.)
female	-0.645**	(0.108)
primary school	0.128	(0.097)
middle school	0.342**	(0.110)
high school	0.133	(0.139)
urban_dummy	0.111	(0.075)
contract_dummy	-0.086	(0.071)
hours_operation	0.128**	(0.019)
log(assets)	0.179**	(0.043)
parttime_dummy	-0.247*	(0.104)
female_family_fulltime	0.097*	(0.046)
female_family_parttime	-0.062	(0.039)
male_family_fulltime	0.243**	(0.029)
male_family_parttime	0.208	(0.203)
textile_industry_dummy1	0.098	(0.343)
textile_industry_dummy2	-0.250	(0.389)
textile_industry_dummy3	-0.257	(0.298)
textile_industry_dummy4	0.145	(0.314)
textile_industry_dummy6	0.583 <sup>†</sup>	(0.325)
textile_industry_dummy7	-0.077	(0.434)
textile_industry_dummy8	0.170	(0.328)
textile_industry_dummy9	-0.678	(0.445)
textile_industry_dummy10	0.334	(0.324)
textile_industry_dummy11	-0.220	(0.380)
south1	0.016	(0.184)
south2	-0.176	(0.181)
east1	0.128	(0.177)
east2	-0.081	(0.132)
west1	-0.143	(0.212)
west2	0.234	(0.142)
north2	0.081	(0.179)
northeast	0.655**	(0.210)
Intercept	4.573**	(0.550)
N	1164955	
Sample	2384	
R <sup>2</sup>	0.648	
F <sub>(31,72)</sub>	301.603	

**Table B.5.** Estimation results : Firms with family and wage workers

Variable	Coefficient	(Std. Err.)
female	-0.055	(0.154)
primary school	0.101	(0.085)
middle school	0.044	(0.093)
high school	0.205 <sup>†</sup>	(0.104)
urban_dummy	0.196 <sup>†</sup>	(0.099)
contract_dummy	-0.182**	(0.067)
hours_operation	0.044**	(0.013)
log(assets)	0.170**	(0.036)
parttime_dummy	0.062	(0.128)
female_family_fulltime	0.127 <sup>†</sup>	(0.069)
female_family_parttime	0.084	(0.056)
female_hired_fulltime	0.205**	(0.051)
female_hired_parttime	0.109**	(0.038)
male_family_fulltime	0.094*	(0.043)
male_family_parttime	0.124	(0.118)
male_hired_fulltime	0.229**	(0.025)
male_hired_parttime	0.126**	(0.028)
textile_industry_dummy1	-0.341*	(0.149)
textile_industry_dummy2	0.046	(0.229)
textile_industry_dummy3	-0.318 <sup>†</sup>	(0.184)
textile_industry_dummy4	-0.164	(0.212)
textile_industry_dummy6	-0.179	(0.124)
textile_industry_dummy7	-0.087	(0.197)
textile_industry_dummy8	-0.109	(0.210)
textile_industry_dummy9	-0.165	(0.188)
textile_industry_dummy10	0.020	(0.107)
textile_industry_dummy11	-0.132	(0.173)
south1	0.087	(0.163)
south2	0.350**	(0.114)
east1	0.016	(0.199)
east2	0.144	(0.127)
west1	0.379**	(0.121)
west2	0.705**	(0.178)
north2	0.221*	(0.104)
northeast	0.525**	(0.164)
Intercept	5.778**	(0.287)
<hr/>		
N	339403	
Sample	1928	
R <sup>2</sup>	0.672	
F <sub>(35,63)</sub>	1330.159	



**Table B.6.** Estimation results : Sub-contracting, Male-owned Firms

Variable	Coefficient	(Std. Err.)
primary school	0.095	(0.089)
middle school	0.149	(0.095)
high school	0.172	(0.118)
urban_dummy	0.120	(0.087)
hours_month	0.055**	(0.015)
log(assets)	0.235**	(0.066)
sub-contract	-0.102	(0.184)
equipment_dummy	-0.043	(0.112)
raw_mat_dummy	0.062	(0.154)
parttime_dummy	0.026	(0.196)
female_family_fulltime	0.047	(0.062)
female_family_parttime	0.081	(0.076)
female_hired_fulltime	0.197**	(0.030)
female_hired_parttime	0.144**	(0.022)
male_family_fulltime	0.186**	(0.030)
male_family_parttime	0.337	(0.271)
male_hired_fulltime	0.291**	(0.030)
male_hired_parttime	0.188 <sup>†</sup>	(0.103)
textile_industry_dummy1	0.486	(0.610)
textile_industry_dummy2	0.816	(0.591)
textile_industry_dummy3	0.409	(0.594)
textile_industry_dummy4	0.870	(0.582)
textile_industry_dummy6	1.402*	(0.625)
textile_industry_dummy7	0.438	(0.628)
textile_industry_dummy8	0.872	(0.617)
textile_industry_dummy9	0.735	(0.602)
textile_industry_dummy10	0.893	(0.592)
textile_industry_dummy11	0.686	(0.657)
south1	0.235	(0.146)
south2	0.317*	(0.121)
east1	0.246*	(0.109)
east2	0.099 <sup>†</sup>	(0.054)
west1	0.189	(0.168)
west2	0.258*	(0.104)
north2	0.050	(0.099)
northeast	0.514**	(0.124)
Intercept	3.749**	(0.857)
<hr/>		
N	695416	
Sample	1907	
R <sup>2</sup>	0.668	
F <sub>(36,54)</sub>	1672.465	

**Table B.7.** Estimation results : Sub-contracting, Female-owned Firms

Variable	Coefficient	(Std. Err.)
primary school	0.160	(0.133)
middle school	0.292**	(0.079)
high school	0.073	(0.091)
urban_dummy	-0.043	(0.104)
hours_month	0.129**	(0.029)
log(assets)	0.136**	(0.025)
sub-contract	-0.565**	(0.121)
equipment_dummy	0.202	(0.123)
raw_mat_dummy	-0.275	(0.182)
parttime_dummy	-0.354**	(0.090)
female_family_fulltime	0.406**	(0.042)
female_family_parttime	0.171**	(0.054)
female_hired_fulltime	0.572**	(0.125)
female_hired_parttime	0.404**	(0.050)
male_family_fulltime	0.746**	(0.172)
male_family_parttime	0.414 <sup>†</sup>	(0.210)
male_hired_fulltime	0.432**	(0.107)
male_hired_parttime	0.713**	(0.073)
textile_industry_dummy1	-0.415 <sup>†</sup>	(0.212)
textile_industry_dummy2	-1.033**	(0.226)
textile_industry_dummy3	-0.801**	(0.130)
textile_industry_dummy4	-0.356*	(0.154)
textile_industry_dummy6	-0.157	(0.232)
textile_industry_dummy7	-0.862**	(0.164)
textile_industry_dummy8	-0.702**	(0.109)
textile_industry_dummy9	-0.596	(0.358)
textile_industry_dummy10	-0.534**	(0.112)
textile_industry_dummy11	-1.056**	(0.302)
south1	-0.463	(0.338)
south2	-0.089	(0.180)
east1	-0.691**	(0.191)
east2	-0.024	(0.143)
west1	0.093	(0.158)
west2	-0.195	(0.163)
north2	-0.295	(0.353)
northeast	0.512**	(0.181)
Intercept	5.539**	(0.273)
<hr/>		
N	757989	
Sample	1492	
R <sup>2</sup>	0.66	
F <sub>(36,49)</sub>	126567.048	

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